



SEQUENCE LISTING

<110> ITOH, Kyogo
SHICHIJO, Shigeki

<120> TUMOR ANTIGEN

<130> Q-78382

<140> US 10/734,049
<141> 2003-12-12

<150> PCT/JP02/05799
<151> 2002-06-11

<150> JP 2001/177058
<151> 2001-06-12

<150> JP 2001/250728
<151> 2001-08-21

<160> 408

<170> PatentIn version 3.3

<210> 1
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 1

Lys Leu Thr Gly Met Ala Phe Arg Val
1 5

<210> 2
<211> 10
<212> PRT
<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 2

Ala Leu Asn Asp His Phe Val Lys Leu Ile
1 5 10

<210> 3

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 3

Ile Leu Gly Tyr Thr Glu His Gln Val
1 5

<210> 4

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 4

Gly Ile Val Glu Gly Leu Met Thr Thr Val
1 5 10

<210> 5

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T

lymphocytes

<400> 5

Thr Leu Leu Ala Gly Met Asn Lys Phe Leu
1 5 10

<210> 6

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 6

Thr Leu Ser Gly Gly Glu Leu Gln Arg Val
1 5 10

<210> 7

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 7

Ile Val Val Glu His Asp Leu Ser Val
1 5

<210> 8

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 8

Ile Leu Thr Tyr Phe Arg Gly Ser Glu Leu
1 5 10

<210> 9

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 9

Ile Leu Ala Gly Lys Gln Lys Pro Asn Leu
1 5 10

<210> 10

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 10

Leu Glu Gly Glu Tyr Ile Lys Leu Lys Val
1 5 10

<210> 11

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 11

Ala Leu Gly Glu Glu Trp Lys Gly Tyr Val
1 5 10

<210> 12

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 12

Asn Leu Ser Val Leu Asn Leu Val Ile Val
1 5 10

<210> 13

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 13

Val Leu Thr His Gly Arg Val Arg Leu
1 5

<210> 14

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 14

Lys Ile Gln Arg Leu Val Thr Pro Arg Val
1 5 10

<210> 15
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 15

Val Gln Phe Val Gln Gly Ile Phe Val
1 5

<210> 16
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 16

Lys Ser Ala Leu Thr Val Gln Phe Val
1 5

<210> 17
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 17

Ile Met Asn Gln Glu Lys Leu Ala Lys Leu
1 5 10

<210> 18
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 18

Leu Gln Phe Ser Leu Lys Lys Leu Gly Val
1 5 10

<210> 19
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 19

Asn Met Phe Thr Asn Gln Gly Thr Val
1 5

<210> 20
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 20

Arg Leu His Asn Asp Arg Val Tyr Tyr Val

1 5

10

<210> 21
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 21

Thr Ile Gly Glu Asn Leu Gln Leu Leu Val
1 5 10

<210> 22
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 22

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr
1 5 10

<210> 23
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 23

Arg Leu His Val Thr Ala Leu Asp Tyr Leu
1 5 10

<210> 24
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 24

Leu Leu Gly Lys Thr Pro Val Thr Gln Val
1 5 10

<210> 25
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 25

Ala Leu Gln Lys Asp Val Glu Asp Phe Leu
1 5 10

<210> 26
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 26

Val Glu Ser Val Asp Gly Tyr Gln Phe Val
1 5 10

<210> 27
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 27

Ile Leu Gly Asp Lys Phe Pro Cys Thr Leu
1 5 10

<210> 28
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 28

Ala Leu Gly Gly Leu Pro Gly Pro Tyr Ile
1 5 10

<210> 29
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 29

Val Leu Val Glu Asp Thr Cys Leu Cys
1 5

<210> 30
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 30

Ala Leu Cys Thr Phe Ala Leu Ser Thr
1 5

<210> 31
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 31

Tyr Gln Gly Glu Pro Asp Glu Ile Ser Ile
1 5 10

<210> 32
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 32

Ile Leu Ala Leu Phe Met Pro Pro Thr
1 5

<210> 33

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 33

Val Leu Ile Glu Ile Leu Cys Thr Arg Thr

1 5 10

<210> 34

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 34

Arg Leu Tyr Tyr Ala Met Lys Gly Ala

1 5

<210> 35

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 35

Gly Val Pro Pro Gly Gln Gly Phe Gly Val

1 5 10

<210> 36

<211> 9

<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 36

Tyr Gln Ser Glu Phe Gly Arg Asp Leu
1 5

<210> 37
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 37

Gly Val Ile Ser Pro Arg Phe Asp Val
1 5

<210> 38
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 38

Thr Leu Met Met Lys His Gly Tyr Ile
1 5

<210> 39
<211> 10
<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 39

Leu Leu Pro Ser Arg Gln Phe Gly Phe Ile
1 5 10

<210> 40

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 40

Ser Val Tyr Ala His Phe Pro Ile Asn Val
1 5 10

<210> 41

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 41

Val Ile Gln Glu Asn Gly Ser Leu Val
1 5

<210> 42

<211> 9

<212> PRT

<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 42

Ile Leu Ser Asn Gln Thr Val Asp Ile
1 5

<210> 43
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 43

Leu Ile Phe Leu Ile Phe Phe Phe Leu
1 5 10

<210> 44
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 44

Val Val Ile Phe Lys Ile Phe Leu Ile
1 5

<210> 45
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 45

Gly Met Ala Asp Ser Gln Asn Met Leu Val
1 5 10

<210> 46
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 46

Ile Ile Ser Glu Lys Tyr Gln Val Phe Ile
1 5 10

<210> 47
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 47

Lys Leu Ile Glu Glu Lys Gly Ala Val
1 5

<210> 48
<211> 9
<212> PRT
<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 48

Phe Leu Phe Pro Ile Gln Ala Lys Thr
1 5

<210> 49

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 49

Ser Leu Ile Asn Ser Asn Val Gly Phe Val
1 5 10

<210> 50

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 50

Lys Leu Gly Val Cys Phe Asp Val Pro Thr
1 5 10

<210> 51

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T

lymphocytes

<400> 51

Tyr Gln His Lys Glu Glu Tyr Gln Leu Val
1 5 10

<210> 52

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 52

Met Val Phe Leu Lys Gly Lys Leu Gly Val
1 5 10

<210> 53

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 53

Ala Leu Ala Ala Ala Leu Ala His Ile
1 5

<210> 54

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 54

Ile Gln Ala Lys Thr Phe His His Val
1 5

<210> 55

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 55

Lys Val Val Ser Ser Lys Thr Lys Lys Val
1 5 10

<210> 56

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 56

Ala Thr Phe Lys Ser Phe Glu Asp Arg Val
1 5 10

<210> 57

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 57

Lys Ile Gly Pro Arg Arg Ile His Thr Val
1 5 10

<210> 58

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 58

Thr Leu Val Lys Asn Cys Ile Val Leu Ile
1 5 10

<210> 59

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 59

Arg Gln Trp Tyr Glu Ser His Tyr Ala
1 5

<210> 60

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 60

Lys Leu Thr Pro Glu Glu Glu Glu Ile
1 5

<210> 61
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 61

Ile Leu Asn Lys Lys Arg Ser Lys Lys Ile
1 5 10

<210> 62
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 62

Tyr Leu Asn Glu Gln Val Lys Ala Ile
1 5

<210> 63
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 63

Ser Leu Leu Glu Leu His Lys Leu Ala Thr
1 5 10

<210> 64
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 64

Phe Leu Gln Asp Ile Lys Lys Pro Asp Cys
1 5 10

<210> 65
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 65

Ile Asn Leu Glu Leu Tyr Ala Ser Tyr Val
1 5 10

<210> 66
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 66

Lys Ile Tyr Lys Ile Gly Gln Gly Tyr Leu

1 5

10

<210> 67
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 67

Lys Leu Ile Lys Asn Asn Ala Ser Thr
1 5

<210> 68
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 68

Gly Met Thr His Ile Val Arg Glu Val
1 5

<210> 69
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 69

Arg Leu Leu Pro Leu Arg Gln Lys Lys Ala
1 5 10

<210> 70
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 70

Phe Leu Ile Phe Glu Asp Arg Lys Phe Ala
1 5 10

<210> 71
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 71

Ala Leu Gly Pro Ser Ile Cys Met Leu
1 5

<210> 72
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 72

Gln Leu Ala Asp Ala Leu Gly Pro Ser Ile
1 5 10

<210> 73
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 73

Gly Leu Pro Leu His Arg Gly Cys Leu Leu
1 5 10

<210> 74
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 74

Tyr Leu Tyr Leu Ile Ser Ser Cys Ile
1 5

<210> 75
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 75

Tyr Leu Ile Ser Ser Cys Ile Lys Pro Ile
1 5 10

<210> 76
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 76

Val Ile Ser Cys Tyr Ile Cys Lys Val
1 5

<210> 77
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 77

Trp Leu Ser Asp Gln Leu Gln Asn Asn Cys
1 5 10

<210> 78
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 78

Met Leu Cys Gly Asn Ile Tyr Pro Ile
1 5

<210> 79

<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 79

Tyr Leu Pro Ser Gly Ser Ser Ala His Leu
1 5 10

<210> 80
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 80

Ser Met Gln Asp Asp Ala Phe Pro Ala
1 5

<210> 81
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 81

Thr Leu Ile Pro Thr Phe Asp Ser Val
1 5

<210> 82
<211> 10

<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 82

Phe Gln Arg Val Arg Ala Leu Cys Tyr Val
1 5 10

<210> 83
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 83

Val Leu Gly Ser Asn Gly Met Val Ser Met
1 5 10

<210> 84
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 84

Phe Leu Thr Lys Ile Phe His Pro Asn Val
1 5 10

<210> 85
<211> 10
<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 85

Leu Leu Leu Glu Asn Tyr Glu Glu Tyr Ala
1 5 10

<210> 86

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 86

Val Leu Leu Thr Ile Lys Cys Leu Leu
1 5

<210> 87

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 87

Gly Leu Phe Arg Met Lys Leu Leu Leu
1 5

<210> 88

<211> 9

<212> PRT

<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 88

Asn Leu Pro Pro His Ile Ile Arg Leu
1 5

<210> 89
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytokine T lymphocytes

<400> 89

Lys Leu Thr Asn Thr Tyr Cys Leu Val
1 5

<210> 90
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 90

Gly Leu Leu Val Pro Asn Asn Thr Thr
1 5

<210> 91
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 91

Gly Met Val Val Asn Asp Trp Cys Ala
1 5

<210> 92
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 92

Val Leu Leu Arg Gln Gly Val Leu Gly Ile
1 5 10

<210> 93
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 93

Gly Leu Met Ile His Ser Gly Asp Pro Val
1 5 10

<210> 94
<211> 9
<212> PRT
<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 94

Ile Leu Ala Thr Arg Thr Gln Asn Val
1 5

<210> 95

<211> 8

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 95

Phe Val Ala Asp Ile Phe Leu Ala
1 5

<210> 96

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 96

Phe Ile Met Glu Ser Gly Ala Lys Gly Cys
1 5 10

<210> 97

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T

lymphocytes

<400> 97

Trp Ile Pro Asn Asn Val Leu Thr Ala Val
1 5 10

<210> 98

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 98

Arg Ile Met Asn Thr Phe Ser Val Val
1 5

<210> 99

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 99

Leu Val Ser Ala Thr Met Ser Gly Val
1 5

<210> 100

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 100

Ser Leu Asn Arg Arg Ile Gln Leu Val
1 5

<210> 101

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 101

Arg Leu Ala Thr Ala Leu Gln Lys Leu
1 5

<210> 102

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 102

Gln Leu Val Glu Glu Glu Leu Asp Arg Ala
1 5 10

<210> 103

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 103

Gly Ile Ser Leu Ala Asn Gln Gln Tyr Val
1 5 10

<210> 104

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 104

Phe Leu His Ser Gly His Leu His Ala
1 5

<210> 105

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 105

Glu Leu Val Arg Phe Arg Gln Lys Val
1 5

<210> 106

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 106

Lys Leu Ser Glu Ala Ala Gly Arg Val
1 5

<210> 107
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 107

Met Val Leu Asp Leu Met Gln Gln Leu
1 5

<210> 108
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 108

Ile Met Gln Asn Leu Leu Ser Lys Asp Val
1 5 10

<210> 109
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 109

Glu Leu Ala Glu Glu Glu Pro His Leu Val
1 5 10

<210> 110

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 110

Gly Leu Ala Asp Ser Gly Trp Phe Leu
1 5

<210> 111

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 111

Lys Gln Tyr Arg His Thr Asp Cys Val
1 5

<210> 112

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 112

Val Gln Trp Leu Phe Asp Glu Ala Gln Leu

1

5

10

<210> 113

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 113

Ile Ile Ile Ala Ser His Trp Thr Asp Val

1 5 10

<210> 114

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 114

Asn Leu Gly Arg Glu Leu Arg His Thr Leu

1 5 10

<210> 115

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 115

Leu Leu Gly Arg Gly Leu Ser Gly Ala

1 5

<210> 116
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 116

Val Leu Tyr Leu Phe Tyr Gln Asp Met
1 5

<210> 117
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 117

Tyr Val Ala Arg Asn Ala Lys Asp Val
1 5

<210> 118
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 118

Leu Ile Gln Asp Thr Ser Arg Pro Pro Leu
1 5 10

<210> 119
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 119

Gly Leu Phe Ile Phe Ser Ile Val Phe Leu
1 5 10

<210> 120
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 120

Trp Leu Leu Leu Pro Leu Leu Gly Ala Val
1 5 10

<210> 121
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 121

Ile Leu Phe Arg Gly Val Gly Met Val
1 5

<210> 122
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 122

Gly Leu Gln Ala Arg Asn Asn Ala Arg Val
1 5 10

<210> 123
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 123

Asp Val Tyr Gly Val Phe Gln Phe Lys Val
1 5 10

<210> 124
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 124

Ser Leu Asn Pro Ile Leu Phe Arg Gly Val
1 5 10

<210> 125

<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 125

Thr Leu His Thr Trp Gly Ser Lys Val
1 5

<210> 126
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 126

Cys Leu Pro Ser Gly Phe Pro Gly Leu
1 5

<210> 127
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 127

Asn Leu Val Lys Cys Ile Lys Arg Leu
1 5

<210> 128
<211> 9

<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 128

Thr Val Phe Leu Glu Gly Asn Leu Val
1 5

<210> 129
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 129

Phe Leu Leu Leu Leu Leu Phe Glu Thr
1 5

<210> 130
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 130

Tyr Ile Phe Phe Cys Val Leu Phe Leu
1 5

<210> 131
<211> 9
<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 131

Phe Leu Leu Leu Phe Gly Phe Trp Lys

1 5

<210> 132

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 132

Ser Val His Pro Arg Leu Phe Leu Leu

1 5

<210> 133

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 133

Ile Leu Phe Pro Arg Lys Pro Ser Ala

1 5

<210> 134

<211> 10

<212> PRT

<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 134

Lys Val Ala Arg Thr Ile Gly Ile Ser Val
1 5 10

<210> 135
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 135

Phe Leu Ala Ile Leu Gly Gly Ala Lys Val
1 5 10

<210> 136
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 136

Val Val Met Arg Val Asp Phe Asn Val
1 5

<210> 137
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 137

Leu Ile Thr Leu Pro Val Asp Phe Val
1 5

<210> 138
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 138

Ser Leu Phe Asp Glu Glu Gly Ala Lys Ile
1 5 10

<210> 139
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 139

Gln Leu Ile Asn Asn Met Leu Asp Lys Val
1 5 10

<210> 140
<211> 10
<212> PRT
<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 140

Phe Cys Leu Asp Asn Gly Ala Lys Ser Val
1 5 10

<210> 141

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 141

Ile Ile Gly Gly Gly Met Ala Phe Thr
1 5

<210> 142

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 142

Ala Leu Phe Val Ser Phe Ile Ile Asn Val
1 5 10

<210> 143

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T

lymphocytes

<400> 143

Val Leu Ile Thr Ile Ala Asp Thr Phe Val
1 5 10

<210> 144

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 144

Phe Leu Phe Leu Asp Lys Tyr Gly Leu
1 5

<210> 145

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 145

Ala Leu Thr Phe Gly Tyr Glu Tyr Val
1 5

<210> 146

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 146

Tyr Leu Gly Trp Gln Cys Leu Ile Ala Leu
1 5 10

<210> 147

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 147

Lys Leu Leu Trp Ile Leu Leu Leu Ala Thr
1 5 10

<210> 148

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 148

Met Leu Phe Ile His Ala Glu Val Ile
1 5

<210> 149

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 149

Lys Leu Ile Lys Arg Ser Gly Tyr Ile
1 5

<210> 150

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 150

Ser Leu Pro Val Cys Ser Leu Lys Leu Ile
1 5 10

<210> 151

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 151

Phe Val Ile Ser Leu Pro Val Cys Ser Leu
1 5 10

<210> 152

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 152

Leu Gln Phe Asp Glu Asn Thr Asn Trp Leu
1 5 10

<210> 153
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 153

Phe Leu Asn Gly Tyr Asn Cys Thr Val
1 5

<210> 154
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 154

Ala Met Leu Lys Thr Arg Arg Ser Tyr Leu
1 5 10

<210> 155
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 155

Thr Leu Met Lys Pro Ser Ser Phe Thr Thr
1 5 10

<210> 156

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 156

Leu Leu Val Asn Ser Gly Pro Leu Ala Val
1 5 10

<210> 157

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 157

Met Leu Gly Ser Ala Asp Glu Pro Gly Val
1 5 10

<210> 158

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 158

Lys Gln Asn Asp Leu Pro Gly Ile Ser Val

1

5

10

<210> 159

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 159

Tyr Leu Thr Met Leu His Leu Tyr Leu Cys

1 5 10

<210> 160

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 160

Ile Thr Gly Glu Ala Phe Val Gln Phe Ala

1 5 10

<210> 161

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 161

Val Val Ala Cys Asn Leu Tyr Pro Phe Val

1 5 10

<210> 162
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 162

Met Leu Gly Gly Arg Val Lys Thr Leu
1 5

<210> 163
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 163

Gln Leu Tyr Thr Leu Gln Pro Lys Leu
1 5

<210> 164
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 164

Gly Leu Val Glu Phe Ala Arg Asn Leu
1 5

<210> 165
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 165

Phe Val Ala Leu Ser Asp Val Cys Asp Val
1 5 10

<210> 166
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 166

Arg Leu Asp Phe Asn Leu Ile Arg Val
1 5

<210> 167
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 167

Ile Leu Ala His Thr Asn Leu Arg Leu
1 5

<210> 168
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 168

Cys Met Val Tyr Asp Leu Tyr Lys Thr Leu
1 5 10

<210> 169
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 169

Trp Gln Leu Val Lys Glu Leu Lys Glu Ala
1 5 10

<210> 170
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 170

Leu Leu Leu Thr Ala Pro Asn Leu Leu
1 5

<210> 171

<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 171

Ala Leu Phe Pro Gly Leu Ala Pro Glu Thr
1 5 10

<210> 172
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 172

Trp Leu Leu Gly Gly His Val Glu Leu
1 5

<210> 173
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 173

Phe Leu His Leu Leu Gln Ala Asp Asn Val
1 5 10

<210> 174
<211> 10

<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 174

Leu Gln Ser Asp His Phe Leu His Leu Leu
1 5 10

<210> 175
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 175

Met Met Met Leu Gln Asn Ile Leu Gln Ile
1 5 10

<210> 176
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 176

Gln Leu Val Gly Leu Leu Ser Pro Met Val
1 5 10

<210> 177
<211> 10
<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 177

Leu Leu Met Ala Glu Ser His Gln Glu Ile
1 5 10

<210> 178

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 178

Lys Leu His Gln Ala Ala Cys Leu Ile
1 5

<210> 179

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 179

Ile Leu Ser His Cys Cys Val Gly Leu
1 5

<210> 180

<211> 10

<212> PRT

<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 180

Ser Leu Phe Trp Leu Leu Gly Gly His Val
1 5 10

<210> 181
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 181

Lys Leu Phe Ala Pro Trp Arg Gly Leu
1 5

<210> 182
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 182

Lys Leu Gly Glu Glu Ser Gly Asp Glu Ile
1 5 10

<210> 183
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 183

Tyr Asp Tyr Asp Gly Tyr Arg Leu Arg Val
1 5 10

<210> 184
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 184

Arg Gly Gly Pro Pro Phe Ala Phe Val
1 5

<210> 185
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 185

Thr Leu Gly Asp Ala His Ile Tyr Leu
1 5

<210> 186
<211> 9
<212> PRT
<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 186

Thr Met Ile Ala His Ile Thr Gly Leu
1 5

<210> 187

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 187

Thr Leu Asn His Ile Glu Pro Leu Lys Ile
1 5 10

<210> 188

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 188

Leu Met Ala Leu Pro Pro Cys His Ala Leu
1 5 10

<210> 189

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T

lymphocytes

<400> 189

Lys Leu Leu Trp Thr Thr Ser Arg Val
1 5

<210> 190

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 190

Arg Leu Val Gln Asn Cys Leu Trp Thr Leu
1 5 10

<210> 191

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 191

Val Leu Phe Tyr Ala Ile Thr Thr Leu
1 5

<210> 192

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 192

Ile Met Phe Asp Val Thr Ser Arg Val
1 5

<210> 193

<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 193

Leu Thr Gly Glu Phe Glu Lys Lys Tyr Val
1 5 10

<210> 194

<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 194

Ala Leu Tyr Glu Lys Asp Asn Thr Tyr Leu
1 5 10

<210> 195

<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 195

Phe Met Ile Leu Ala Ser Pro Arg Tyr Val
1 5 10

<210> 196

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 196

Lys Leu Thr Ser Leu Gln Leu Gln His Leu
1 5 10

<210> 197

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 197

Ser Leu Gln Leu Gln His Leu Phe Met Ile
1 5 10

<210> 198

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 198

Gln Val Leu Pro Met Leu Arg Phe Val
1 5

<210> 199
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 199

Lys Met Val Thr Met Val Ser Val Leu
1 5

<210> 200
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 200

Ala Leu Phe Lys Cys Tyr Met Phe Leu
1 5

<210> 201
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 201

Phe Leu Ala Leu Pro Leu Glu Asp Val
1 5

<210> 202
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 202

Arg Leu Pro Leu Cys Arg Pro Gln Phe Leu
1 5 10

<210> 203
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 203

Leu Met Pro Glu Arg Arg Pro His Leu
1 5

<210> 204
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 204

Phe Leu Gln Leu Gln Ser Ile Lys Asp Ala

1

5

10

<210> 205

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 205

Lys Ile Leu Phe Lys Thr Trp His Leu

1 5

<210> 206

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 206

Ile Leu Phe Lys Thr Trp His Leu Ile

1 5

<210> 207

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 207

Phe Leu Pro Pro Phe Ser Leu Ser Leu

1 5

<210> 208
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 208

Ser Leu Pro Leu Phe Leu Pro Pro Phe Leu
1 5 10

<210> 209
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 209

Gly Leu Tyr Phe Leu Tyr Ser Met Pro Val
1 5 10

<210> 210
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 210

Phe Val Gly Gly His Val Gly Trp Pro Thr
1 5 10

<210> 211
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 211

Arg Leu His Asn Asp Arg Val Tyr Tyr Val
1 5 10

<210> 212
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 212

Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val
1 5 10

<210> 213
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 213

Tyr Val Ser Glu Lys Ile Met Lys Leu
1 5

<210> 214
<211> 335
<212> PRT
<213> Homo sapiens

<400> 214

Met Gly Lys Val Lys Val Gly Val Asn Gly Phe Gly Arg Ile Gly Arg
1 5 10 15

Leu Val Thr Arg Ala Ala Phe Asn Ser Gly Lys Val Asp Ile Val Ala
20 25 30

Ile Asn Asp Pro Phe Ile Asp Leu Asn Tyr Met Val Tyr Met Phe Gln
35 40 45

Tyr Asp Ser Thr His Gly Lys Phe His Gly Thr Val Lys Ala Glu Asn
50 55 60

Gly Lys Leu Val Ile Asn Gly Asn Pro Ile Thr Ile Phe Gln Glu Arg
65 70 75 80

Asp Pro Ser Lys Ile Lys Trp Gly Asp Ala Gly Ala Glu Tyr Val Val
85 90 95

Glu Ser Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu
100 105 110

Gln Gly Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala
115 120 125

Pro Met Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu
130 135 140

Lys Ile Ile Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu
145 150 155 160

Ala Lys Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr
165 170 175

Thr Val His Ala Ile Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser
180 185 190

Gly Lys Leu Trp Arg Asp Gly Arg Gly Ala Leu Gln Asn Ile Ile Pro
195 200 205

Ala Ser Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Glu Leu
210 215 220

Asn Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Ala Asn Val
225 230 235 240

Ser Val Val Asp Leu Thr Cys Arg Leu Glu Lys Pro Ala Lys Tyr Asp
245 250 255

Asp Ile Lys Lys Val Val Lys Gln Ala Ser Glu Gly Pro Leu Lys Gly
260 265 270

Ile Leu Gly Tyr Thr Glu His Gln Val Val Ser Ser Asp Phe Asn Ser
275 280 285

Asp Thr His Ser Ser Thr Phe Asp Ala Gly Ala Gly Ile Ala Leu Asn
290 295 300

Asp His Phe Val Lys Leu Ile Ser Trp Tyr Asp Asn Glu Phe Gly Tyr
305 310 315 320

Ser Asn Arg Val Val Asp Leu Met Ala His Met Ala Ser Lys Glu
325 330 335

<210> 215

<211> 599
<212> PRT
<213> Homo sapiens

<400> 215

Met Ala Asp Lys Leu Thr Arg Ile Ala Ile Val Asn His Asp Lys Cys
1 5 10 15

Lys Pro Lys Lys Cys Arg Gln Glu Cys Lys Lys Ser Cys Pro Val Val
20 25 30

Arg Met Gly Lys Leu Cys Ile Glu Val Thr Pro Gln Ser Lys Ile Ala
35 40 45

Trp Ile Ser Glu Thr Leu Cys Ile Gly Cys Gly Ile Cys Ile Lys Lys
50 55 60

Cys Pro Phe Gly Ala Leu Ser Ile Val Asn Leu Pro Ser Asn Leu Glu
65 70 75 80

Lys Glu Thr Thr His Arg Tyr Cys Ala Asn Ala Phe Lys Leu His Arg
85 90 95

Leu Pro Ile Pro Arg Pro Gly Glu Val Leu Gly Leu Val Gly Thr Asn
100 105 110

Gly Ile Gly Lys Ser Thr Ala Leu Lys Ile Leu Ala Gly Lys Gln Lys
115 120 125

Pro Asn Leu Gly Lys Tyr Asp Asp Pro Pro Asp Trp Gln Glu Ile Leu
130 135 140

Thr Tyr Phe Arg Gly Ser Glu Leu Gln Asn Tyr Phe Thr Lys Ile Leu
145 150 155 160

Glu Asp Asp Leu Lys Ala Ile Ile Lys Pro Gln Tyr Val Asp Gln Ile
165 170 175

Pro Lys Ala Ala Lys Gly Thr Val Gly Ser Ile Leu Asp Arg Lys Asp
180 185 190

Glu Thr Lys Thr Gln Ala Ile Val Cys Gln Gln Leu Asp Leu Thr His
195 200 205

Leu Lys Glu Arg Asn Val Glu Asp Leu Ser Gly Gly Glu Leu Gln Arg
210 215 220

Phe Ala Cys Ala Val Val Cys Ile Gln Lys Ala Asp Ile Phe Met Phe
225 230 235 240

Asp Glu Pro Ser Ser Tyr Leu Asp Val Lys Gln Arg Leu Lys Ala Ala
245 250 255

Ile Thr Ile Arg Ser Leu Ile Asn Pro Asp Arg Tyr Ile Ile Val Val
260 265 270

Glu His Asp Leu Ser Val Leu Asp Tyr Leu Ser Asp Phe Ile Cys Cys
275 280 285

Leu Tyr Gly Val Pro Ser Ala Tyr Gly Val Val Thr Met Pro Phe Ser
290 295 300

Val Arg Glu Gly Ile Asn Ile Phe Leu Asp Gly Tyr Val Pro Thr Glu
305 310 315 320

Asn Leu Arg Phe Arg Asp Ala Ser Leu Val Phe Lys Val Ala Glu Thr
325 330 335

Ala Asn Glu Glu Glu Val Lys Lys Met Cys Met Tyr Lys Tyr Pro Gly
340 345 350

Met Lys Lys Lys Met Gly Glu Phe Glu Leu Ala Ile Val Ala Gly Glu
355 360 365

Phe Thr Asp Ser Glu Ile Met Val Met Leu Gly Glu Asn Gly Thr Gly
370 375 380

Lys Thr Thr Phe Ile Arg Met Leu Ala Gly Arg Leu Lys Pro Asp Glu
385 390 395 400

Gly Gly Glu Val Pro Val Leu Asn Val Ser Tyr Lys Pro Gln Lys Ile
405 410 415

Ser Pro Lys Ser Thr Gly Ser Val Arg Gln Leu Leu His Glu Lys Ile
420 425 430

Arg Asp Ala Tyr Thr His Pro Gln Phe Val Thr Asp Val Met Lys Pro
435 440 445

Leu Gln Ile Glu Asn Ile Ile Asp Gln Glu Val Gln Thr Leu Ser Gly
450 455 460

Gly Glu Leu Gln Arg Val Ala Leu Ala Leu Cys Leu Gly Lys Pro Ala
465 470 475 480

Asp Val Tyr Leu Ile Asp Glu Pro Ser Ala Tyr Leu Asp Ser Glu Gln
485 490 495

Arg Leu Met Ala Ala Arg Val Val Lys Arg Phe Ile Leu His Ala Lys
500 505 510

Lys Thr Ala Phe Val Val Glu His Asp Phe Ile Met Ala Thr Tyr Leu
515 520 525

Ala Asp Arg Val Ile Val Phe Asp Gly Val Pro Ser Lys Asn Thr Val
530 535 540

Ala Asn Ser Pro Gln Thr Leu Leu Ala Gly Met Asn Lys Phe Leu Ser
545 550 555 560

Gln Leu Glu Ile Thr Phe Arg Arg Asp Pro Asn Asn Tyr Arg Pro Arg
565 570 575

Ile Asn Lys Leu Asn Ser Ile Lys Asp Val Glu Gln Lys Lys Ser Gly
580 585 590

Asn Tyr Phe Phe Leu Asp Asp
595

<210> 216
<211> 101
<212> PRT
<213> Homo sapiens

<400> 216

Met Ser Asp Gln Glu Ala Lys Pro Ser Thr Glu Asp Leu Gly Asp Lys
1 5 10 15

Lys Glu Gly Glu Tyr Ile Lys Leu Lys Val Ile Gly Gln Asp Ser Ser
20 25 30

Glu Ile His Phe Lys Val Lys Met Thr Thr His Leu Lys Lys Leu Lys
35 40 45

Glu Ser Tyr Cys Gln Arg Gln Gly Val Pro Met Asp Ser Leu Arg Phe
50 55 60

Leu Phe Glu Gly Gln Arg Ile Ala Asp Asp His Thr Pro Lys Glu Leu
65 70 75 80

Gly Met Glu Glu Glu Asp Val Ile Glu Val Tyr Gln Glu Gln Thr Gly
85 90 95

Gly His Ser Thr Val
100

<210> 217
<211> 249
<212> PRT
<213> Homo sapiens

<400> 217

Met Lys Leu Asn Ile Ser Phe Pro Ala Thr Gly Cys Gln Lys Leu Ile
1 5 10 15

Glu Val Asp Asp Glu Arg Lys Leu Arg Thr Phe Tyr Glu Lys Arg Met
20 25 30

Ala Thr Glu Val Ala Ala Asp Ala Leu Gly Glu Glu Trp Lys Gly Tyr
35 40 45

Val Val Arg Ile Ser Gly Gly Asn Asp Lys Gln Gly Phe Pro Met Lys
50 55 60

Gln Gly Val Leu Thr His Gly Arg Val Arg Leu Leu Leu Ser Lys Gly
65 70 75 80

His Ser Cys Tyr Arg Pro Arg Arg Thr Gly Glu Arg Lys Arg Lys Ser
85 90 95

Val Arg Gly Cys Ile Val Asp Ala Asn Leu Ser Val Leu Asn Leu Val
100 105 110

Ile Val Lys Lys Gly Glu Lys Asp Ile Pro Gly Leu Thr Asp Thr Thr
115 120 125

Val Pro Arg Arg Leu Gly Pro Lys Arg Ala Ser Arg Ile Arg Lys Leu
130 135 140

Phe Asn Leu Ser Lys Glu Asp Asp Val Arg Gln Tyr Val Val Arg Lys
145 150 155 160

Pro Leu Asn Lys Glu Gly Lys Lys Pro Arg Thr Lys Ala Pro Lys Ile
165 170 175

Gln Arg Leu Val Thr Pro Arg Val Leu Gln His Lys Arg Arg Arg Ile
180 185 190

Ala Leu Lys Lys Gln Arg Thr Lys Lys Asn Lys Glu Glu Ala Ala Glu
195 200 205

Tyr Ala Lys Leu Leu Ala Lys Arg Met Lys Glu Ala Lys Glu Lys Arg
210 215 220

Gln Glu Gln Ile Ala Lys Arg Arg Arg Leu Ser Ser Leu Arg Ala Ser
225 230 235 240

Thr Ser Lys Ser Glu Ser Ser Gln Lys
245

<210> 218
<211> 184
<212> PRT
<213> Homo sapiens

<400> 218

Met Arg Glu Tyr Lys Leu Val Val Leu Gly Ser Gly Gly Val Gly Lys
1 5 10 15

Ser Ala Leu Thr Val Glu Phe Val Gln Gly Ile Phe Val Glu Lys Tyr

20

25

30

Asp Pro Thr Ile Glu Asp Ser Tyr Arg Lys Gln Val Glu Val Asp Ala
35 40 45

Gln Gln Cys Met Leu Glu Ile Leu Asp Thr Ala Gly Thr Glu Gln Phe
50 55 60

Thr Ala Met Arg Asp Leu Tyr Met Lys Asn Gly Gln Gly Phe Ala Leu
65 70 75 80

Val Tyr Ser Ile Thr Ala Gln Ser Thr Phe Asn Asp Leu Gln Asp Leu
85 90 95

Arg Glu Gln Ile Leu Arg Val Lys Asp Thr Asp Asp Val Pro Met Ile
100 105 110

Leu Val Gly Asn Lys Cys Asp Leu Glu Asp Glu Arg Val Val Gly Lys
115 120 125

Glu Gln Gly Gln Asn Leu Ala Arg Gln Trp Asn Asn Cys Ala Phe Leu
130 135 140

Glu Ser Ser Ala Lys Ser Lys Ile Asn Val Asn Glu Ile Phe Tyr Asp
145 150 155 160

Leu Val Arg Gln Ile Asn Arg Lys Thr Pro Val Pro Gly Lys Ala Arg
165 170 175

Lys Lys Ser Ser Cys Gln Leu Leu
180

<210> 219

<211> 162

<212> PRT

<213> Homo sapiens

<400> 219

Met Lys Glu Thr Ile Met Asn Gln Glu Lys Leu Ala Lys Leu Gln Ala
1 5 10 15

Gln Val Arg Ile Gly Gly Lys Gly Thr Ala Arg Arg Lys Lys Lys Val
20 25 30

Val His Arg Thr Ala Thr Ala Asp Asp Lys Lys Leu Gln Phe Ser Leu
35 40 45

Lys Lys Leu Gly Val Asn Asn Ile Ser Gly Ile Glu Glu Val Asn Met
50 55 60

Phe Thr Asn Gln Gly Thr Val Ile His Phe Asn Asn Pro Lys Val Gln
65 70 75 80

Ala Ser Leu Ala Ala Asn Thr Phe Thr Ile Thr Gly His Ala Glu Thr
85 90 95

Lys Gln Leu Thr Glu Met Leu Pro Ser Ile Leu Asn Gln Leu Gly Ala
100 105 110

Asp Ser Leu Thr Ser Leu Arg Arg Leu Ala Glu Ala Leu Pro Lys Gln
115 120 125

Ser Val Asp Gly Lys Ala Pro Leu Ala Thr Gly Glu Asp Asp Asp Asp
130 135 140

Glu Val Pro Asp Leu Val Glu Asn Phe Asp Glu Ala Ser Lys Asn Glu
145 150 155 160

Ala Asn

<210> 220
<211> 180
<212> PRT
<213> Homo sapiens

<400> 220

Met Arg Pro Leu Thr Glu Glu Glu Thr Arg Val Met Phe Glu Lys Ile
1 5 10 15

Ala Lys Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val Asp Arg Pro Asp
20 25 30

Gly Thr Tyr Cys Phe Arg Leu His Asn Asp Arg Val Tyr Tyr Val Ser
35 40 45

Glu Lys Ile Met Lys Leu Ala Ala Asn Ile Ser Gly Asp Lys Leu Val
50 55 60

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr Lys Thr His Lys Phe Arg
65 70 75 80

Leu His Val Thr Ala Leu Asp Tyr Leu Ala Pro Tyr Ala Lys Tyr Lys
85 90 95

Val Trp Ile Lys Pro Gly Ala Glu Gln Ser Phe Leu Tyr Gly Asn His
100 105 110

Val Leu Lys Ser Gly Leu Gly Arg Ile Thr Glu Asn Thr Ser Gln Tyr
115 120 125

Gln Gly Val Val Val Tyr Ser Met Ala Asp Ile Pro Leu Gly Phe Gly
130 135 140

Val Ala Ala Lys Ser Thr Gln Asp Cys Arg Lys Val Asp Pro Met Ala

145 150 155 160

Ile Val Val Phe His Gln Ala Asp Ile Gly Glu Tyr Val Arg His Glu
165 170 175

Glu Thr Leu Thr
180

<210> 221
<211> 166
<212> PRT
<213> Homo sapiens

<400> 221

Met Ala Ala Thr Met Phe Arg Ala Thr Leu Arg Gly Trp Arg Thr Gly
1 5 10 15

Val Gln Arg Gly Cys Gly Leu Arg Leu Leu Ser Gln Thr Gln Gly Pro
20 25 30

Pro Asp Tyr Pro Arg Phe Val Glu Ser Val Asp Glu Tyr Gln Phe Val
35 40 45

Glu Arg Leu Leu Pro Ala Thr Arg Ile Pro Asp Pro Pro Lys His Glu
50 55 60

His Tyr Pro Thr Pro Ser Gly Trp Gln Pro Pro Arg Asp Pro Pro Pro
65 70 75 80

Asn Leu Pro Tyr Phe Val Arg Arg Ser Arg Met His Asn Ile Pro Val
85 90 95

Tyr Lys Asp Ile Thr His Gly Asn Arg Gln Met Thr Val Ile Arg Lys
100 105 110

Val Glu Gly Asp Ile Trp Ala Leu Gln Lys Asp Val Glu Asp Phe Leu
115 120 125

Ser Pro Leu Leu Gly Lys Thr Pro Val Thr Gln Val Asn Glu Val Thr
130 135 140

Gly Thr Leu Arg Ile Lys Gly Tyr Phe Asp Gln Glu Leu Lys Ala Trp
145 150 155 160

Leu Leu Glu Lys Gly Phe
165

<210> 222
<211> 194
<212> PRT
<213> Homo sapiens

<400> 222

Met Ala Ala Ser Leu Val Gly Lys Lys Ile Val Phe Val Thr Gly Asn
1 5 10 15

Ala Lys Lys Leu Glu Glu Val Val Gln Ile Leu Gly Asp Lys Phe Pro
20 25 30

Cys Thr Leu Val Ala Gln Lys Ile Asp Leu Pro Glu Tyr Gln Gly Glu
35 40 45

Pro Asp Glu Ile Ser Ile Gln Lys Cys Gln Glu Ala Val Arg Gln Val
50 55 60

Gln Gly Pro Val Leu Val Glu Asp Thr Cys Leu Cys Phe Asn Ala Leu
65 70 75 80

Gly Gly Leu Pro Gly Pro Tyr Ile Lys Trp Phe Leu Glu Lys Leu Lys
85 90 95

Pro Glu Gly Leu His Gln Leu Leu Ala Gly Phe Glu Asp Lys Ser Ala
100 105 110

Tyr Ala Leu Cys Thr Phe Ala Leu Ser Thr Gly Asp Pro Ser Gln Pro
115 120 125

Val Arg Leu Phe Arg Gly Arg Thr Ser Gly Arg Ile Val Ala Pro Arg
130 135 140

Gly Cys Gln Asp Phe Gly Trp Asp Pro Cys Phe Gln Pro Asp Gly Tyr
145 150 155 160

Glu Gln Thr Tyr Ala Glu Met Pro Lys Ala Glu Lys Asn Ala Val Ser
165 170 175

His Arg Phe Arg Ala Leu Leu Glu Leu Gln Glu Tyr Phe Gly Ser Leu
180 185 190

Ala Ala

<210> 223
<211> 466
<212> PRT
<213> Homo sapiens

<400> 223

Met Ser Tyr Pro Gly Tyr Pro Pro Thr Gly Tyr Pro Pro Phe Pro Gly
1 5 10 15

Tyr Pro Pro Ala Gly Gln Glu Ser Ser Phe Pro Pro Ser Gly Gln Tyr
20 25 30

Pro Tyr Pro Ser Gly Phe Pro Pro Met Gly Gly Ala Tyr Pro Gln
35 40 45

Val Pro Ser Ser Gly Tyr Pro Gly Ala Gly Gly Tyr Pro Ala Pro Gly
50 55 60

Gly Tyr Pro Ala Pro Gly Gly Tyr Pro Gly Ala Pro Gln Pro Gly Gly
65 70 75 80

Ala Pro Ser Tyr Pro Gly Val Pro Pro Gly Gln Gly Phe Gly Val Pro
85 90 95

Pro Gly Gly Ala Gly Phe Ser Gly Tyr Pro Gln Pro Pro Ser Gln Ser
100 105 110

Tyr Gly Gly Gly Pro Ala Gln Val Pro Leu Pro Gly Gly Phe Pro Gly
115 120 125

Gly Gln Met Pro Ser Gln Tyr Pro Gly Gly Gln Pro Thr Tyr Pro Ser
130 135 140

Gln Pro Ala Thr Val Thr Gln Val Thr Gln Gly Thr Ile Arg Pro Ala
145 150 155 160

Ala Asn Phe Asp Ala Ile Arg Asp Ala Glu Ile Leu Arg Lys Ala Met
165 170 175

Lys Gly Phe Gly Thr Asp Glu Gln Ala Ile Val Asp Val Val Ala Asn
180 185 190

Arg Ser Asn Asp Gln Arg Gln Lys Ile Lys Ala Ala Phe Lys Thr Ser
195 200 205

Tyr Gly Lys Asp Leu Ile Lys Asp Leu Lys Ser Glu Leu Ser Gly Asn
210 215 220

Met Glu Glu Leu Ile Leu Ala Leu Phe Met Pro Pro Thr Tyr Tyr Tyr Asp
225 230 235 240

Ala Trp Ser Leu Arg Leu Ala Met Gln Gly Ala Gly Thr Gln Glu Arg
245 250 255

Val Leu Ile Glu Ile Leu Cys Thr Arg Thr Asn Gln Glu Ile Arg Glu
260 265 270

Ile Val Arg Cys Tyr Gln Ser Glu Phe Gly Arg Asp Leu Glu Leu Asp
275 280 285

Ile Arg Ser Asp Thr Ser Gly His Phe Glu Arg Leu Leu Val Ser Met
290 295 300

Cys Gln Gly Asn Arg Asp Glu Asn Gln Ser Ile Asn His Gln Met Ala
305 310 315 320

Gln Glu Asp Ala Gln Arg Leu Tyr Gln Ala Gly Glu Gly Arg Leu Gly
325 330 335

Thr Asp Glu Ser Cys Phe Asn Met Ile Leu Ala Thr Arg Ser Phe Pro
340 345 350

Gln Leu Arg Ala Thr Met Glu Ala Tyr Ser Arg Met Ala Asn Arg Asp
355 360 365

Leu Leu Ser Ser Val Ser Arg Glu Phe Ser Gly Tyr Val Glu Ser Gly
370 375 380

Leu Lys Thr Ile Leu Gln Cys Ala Leu Asn Arg Pro Ala Phe Phe Ala
385 390 395 400

Glu Arg Leu Tyr Tyr Ala Met Lys Gly Ala Gly Thr Asp Asp Ser Thr
405 410 415

Leu Val Arg Ile Val Val Thr Arg Ser Glu Ile Asp Leu Val Gln Ile
420 425 430

Lys Gln Met Phe Ala Gln Met Tyr Gln Lys Thr Leu Gly Thr Met Ile
435 440 445

Ala Gly Asp Thr Ser Gly Asp Tyr Arg Arg Leu Leu Leu Ala Ile Val
450 455 460

Gly Gln
465

<210> 224
<211> 130
<212> PRT
<213> Homo sapiens

<400> 224

Met Val Arg Met Asn Val Leu Ala Asp Ala Leu Lys Ser Ile Asn Asn
1 5 10 15

Ala Glu Lys Arg Gly Lys Arg Gln Val Leu Ile Arg Pro Cys Ser Lys
20 25 30

Val Ile Val Arg Phe Leu Thr Val Met Met Lys His Gly Tyr Ile Gly
35 40 45

Glu Phe Glu Ile Ile Asp Asp His Arg Ala Gly Lys Ile Val Val Asn
50 55 60

Leu Thr Gly Arg Leu Asn Lys Cys Gly Val Ile Ser Pro Arg Phe Asp
65 70 75 80

Val Gln Leu Lys Asp Leu Glu Lys Trp Gln Asn Asn Leu Leu Pro Ser

85

90

95

Arg Gln Phe Gly Phe Ile Val Leu Thr Thr Ser Ala Gly Ile Met Asp
100 105 110

His Glu Glu Ala Arg Arg Lys His Thr Gly Gly Leu Ile Leu Gly Phe
115 120 125

Phe Phe
130

<210> 225
<211> 192
<212> PRT
<213> Homo sapiens

<400> 225

Met Leu Thr Ile Leu Ser Asn Gln Thr Val Asp Ile Pro Glu Asn Val
1 5 10 15

Asp Ile Thr Leu Lys Gly Arg Thr Val Ile Val Lys Gly Pro Arg Gly
20 25 30

Thr Leu Arg Arg Asp Phe Asn His Ile Asn Val Glu Leu Ser Leu Leu
35 40 45

Gly Lys Lys Lys Lys Arg Leu Arg Val Asp Lys Trp Trp Gly Asn Arg
50 55 60

Leu Glu Leu Ala Thr Val Arg Thr Ile Cys Ser His Val Gln Asn Met
65 70 75 80

Ile Lys Gly Val Thr Leu Gly Phe Arg Tyr Lys Met Arg Ser Val Tyr
85 90 95

Ala His Phe Pro Ile Asn Val Val Ile Gln Glu Asn Gly Ser Leu Val
100 105 110

Glu Ile Arg Asn Phe Leu Gly Glu Leu Tyr Ile Arg Arg Val Arg Met
115 120 125

Arg Pro Gly Val Ala Cys Ser Val Ser Gln Ala Gln Lys Asp Glu Leu
130 135 140

Ile Leu Glu Gly Asn Asp Ile Glu Leu Val Ser Asn Ser Ala Ala Leu
145 150 155 160

Ile Gln Gln Ala Thr Thr Val Lys Asn Lys Asp Ile Arg Lys Phe Leu
165 170 175

Asp Gly Ile Tyr Val Ser Glu Lys Gly Thr Val Gln Gln Ala Asp Glu
180 185 190

<210> 226

<211> 67

<212> PRT

<213> Homo sapiens

<400> 226

Met Leu Leu Tyr Ile Asn Arg Ala Arg Pro Glu Gly Gly Arg Gly Ala
1 5 10 15

Gly Ala Glu Gly Arg Ser Asn Gln Ile Ser Asn Phe Leu Leu Ile Ile
20 25 30

Asn Pro Leu Phe Thr Ala Val Ser Val Val Ile Phe Leu Ile Phe Leu
35 40 45

Ile Phe Phe Phe Leu Leu Leu Phe Thr Ser Cys Val Tyr Val
50 55 60

Gly Asn Leu
65

<210> 227
<211> 66
<212> PRT
<213> Homo sapiens

<400> 227

Met His Phe His Asn Ile Cys Leu Leu Glu Arg Ser Ile Ile Ser Glu
1 5 10 15

Lys Tyr Gln Val Phe Ile Lys Phe Leu Gly Met Ala Asp Ser Gln Asn
20 25 30

Met Leu Val Ser Leu Gln Tyr Ser Ser Arg Arg Ala Asn Gln Gly Arg
35 40 45

Ala Gly Met Arg Ser Asp Ile Cys Val Thr Lys Ser Ile Phe Leu Ile
50 55 60

Ser Leu
65

<210> 228
<211> 145
<212> PRT
<213> Homo sapiens

<400> 228

Met Ile Leu Gln Cys Ser Ile Glu Met Pro Asn Ile Ser Tyr Ala Trp
1 5 10 15

Lys Glu Leu Lys Glu Gln Leu Gly Glu Glu Ile Asp Ser Lys Val Lys
20 25 30

Gly Met Val Phe Leu Lys Gly Lys Leu Gly Val Cys Phe Asp Val Pro
35 40 45

Thr Ala Ser Val Thr Glu Ile Gln Glu Lys Trp His Asp Ser Arg Arg
50 55 60

Trp Gln Leu Ser Val Ala Thr Glu Gln Pro Glu Leu Glu Gly Pro Arg
65 70 75 80

Glu Gly Tyr Gly Gly Phe Arg Gly Gln Arg Glu Gly Ser Arg Gly Phe
85 90 95

Arg Gly Gln Arg Asp Gly Asn Arg Arg Phe Arg Gly Gln Arg Glu Gly
100 105 110

Ser Arg Gly Pro Arg Gly Gln Arg Ser Gly Gly Asn Lys Ser Asn
115 120 125

Arg Ser Gln Asn Lys Gly Gln Lys Arg Ser Phe Ser Lys Ala Phe Gly
130 135 140

Gln
145

<210> 229
<211> 49
<212> PRT
<213> Homo sapiens

<400> 229

Met Arg Asn Ser Ala Thr Phe Lys Ser Phe Glu Asp Arg Val Gly Thr
1 5 10 15

Ile Lys Ser Lys Val Val Gly Asp Arg Glu Asn Gly Ser Asp Asn Leu
20 25 30

Pro Ser Ser Ala Gly Ser Gly Asp Lys Pro Leu Ser Asp Pro Ala Pro
35 40 45

Phe

<210> 230
<211> 208
<212> PRT
<213> Homo sapiens

<400> 230

Met Gly Ile Ser Arg Asp Asn Trp His Lys Arg Arg Lys Thr Gly Gly
1 5 10 15

Lys Arg Lys Pro Tyr His Lys Lys Arg Lys Tyr Glu Leu Gly Arg Pro
20 25 30

Ala Ala Asn Thr Lys Ile Gly Pro Arg Arg Ile His Thr Val Arg Val
35 40 45

Arg Gly Gly Asn Lys Lys Tyr Arg Ala Leu Arg Leu Asp Val Gly Asn
50 55 60

Phe Ser Trp Gly Ser Glu Cys Cys Thr Arg Lys Thr Arg Ile Ile Asp
65 70 75 80

Val Val Tyr Asn Ala Ser Asn Asn Glu Leu Val Arg Thr Lys Thr Leu
85 90 95

Val Lys Asn Cys Ile Val Leu Ile Asp Ser Thr Pro Tyr Arg Gln Trp
100 105 110

Tyr Glu Ser His Tyr Ala Leu Pro Leu Gly Arg Lys Lys Gly Ala Lys

115

120

125

Leu Thr Pro Glu Glu Glu Ile Leu Asn Lys Lys Arg Ser Lys Lys
130 135 140

Ile Gln Lys Lys Tyr Asp Glu Arg Lys Lys Asn Ala Lys Ile Ser Ser
145 150 155 160

Leu Leu Glu Glu Gln Phe Gln Gln Gly Lys Leu Leu Ala Cys Ile Ala
165 170 175

Ser Arg Pro Gly Gln Cys Gly Arg Ala Asp Gly Tyr Val Leu Glu Gly
180 185 190

Lys Glu Leu Glu Phe Tyr Leu Arg Lys Ile Lys Ala Arg Lys Gly Lys
195 200 205

<210> 231

<211> 183

<212> PRT

<213> Homo sapiens

<400> 231

Met Thr Thr Ala Ser Thr Ser Gln Val Arg Gln Asn Tyr His Gln Asp
1 5 10 15

Ser Glu Ala Ala Ile Asn Arg Gln Ile Asn Leu Glu Leu Tyr Ala Ser
20 25 30

Tyr Val Tyr Leu Ser Met Ser Tyr Tyr Phe Asp Arg Asp Asp Val Ala
35 40 45

Leu Lys Asn Phe Ala Lys Tyr Phe Leu His Gln Ser His Glu Glu Arg
50 55 60

Glu His Ala Glu Lys Leu Met Lys Leu Gln Asn Gln Arg Gly Gly Arg
65 70 75 80

Ile Phe Leu Gln Asp Ile Lys Lys Pro Asp Cys Asp Asp Trp Glu Ser
85 90 95

Gly Leu Asn Ala Met Glu Cys Ala Leu His Leu Glu Lys Asn Val Asn
100 105 110

Gln Ser Leu Leu Glu Leu His Lys Leu Ala Thr Asp Lys Asn Asp Pro
115 120 125

His Leu Cys Asp Phe Ile Glu Thr His Tyr Leu Asn Glu Gln Val Lys
130 135 140

Ala Ile Lys Glu Leu Gly Asp His Val Thr Asn Leu Arg Lys Met Gly
145 150 155 160

Ala Pro Glu Ser Gly Leu Ala Glu Tyr Leu Phe Asp Lys His Thr Leu
165 170 175

Gly Asp Ser Asp Asn Glu Ser
180

<210> 232
<211> 403
<212> PRT
<213> Homo sapiens

<400> 232

Met Ser His Arg Lys Phe Ser Ala Pro Arg His Gly Ser Leu Gly Phe
1 5 10 15

Leu Pro Arg Lys Arg Ser Ser Arg His Arg Gly Lys Val Lys Ser Phe
20 25 30

Pro Lys Asp Asp Pro Ser Lys Pro Val His Leu Thr Ala Phe Leu Gly
35 40 45

Tyr Lys Ala Gly Met Thr His Ile Val Arg Glu Val Asp Arg Pro Gly
50 55 60

Ser Lys Val Asn Lys Lys Glu Val Val Glu Ala Val Thr Ile Val Glu
65 70 75 80

Thr Pro Pro Met Val Val Val Gly Ile Val Gly Tyr Val Glu Thr Pro
85 90 95

Arg Gly Leu Arg Thr Phe Lys Thr Val Phe Ala Glu His Ile Ser Asp
100 105 110

Glu Cys Lys Arg Arg Phe Tyr Lys Asn Trp His Lys Ser Lys Lys Lys
115 120 125

Ala Phe Thr Lys Tyr Cys Lys Lys Trp Gln Asp Glu Asp Gly Lys Lys
130 135 140

Gln Leu Glu Lys Asp Phe Ser Ser Met Lys Lys Tyr Cys Gln Val Ile
145 150 155 160

Arg Val Ile Ala His Thr Gln Met Arg Leu Leu Pro Leu Arg Gln Lys
165 170 175

Lys Ala His Leu Met Glu Ile Gln Val Asn Gly Gly Thr Val Ala Glu
180 185 190

Lys Leu Asp Trp Ala Arg Glu Arg Leu Glu Gln Gln Val Pro Val Asn
195 200 205

Gln Val Phe Gly Gln Asp Glu Met Ile Asp Val Ile Gly Val Thr Lys

210

215

220

Gly Lys Gly Tyr Lys Gly Val Thr Ser Arg Trp His Thr Lys Lys Leu
225 230 235 240

Pro Arg Lys Thr His Arg Gly Leu Arg Lys Val Ala Cys Ile Gly Ala
245 250 255

Trp His Pro Ala Arg Val Ala Phe Ser Val Ala Arg Ala Gly Gln Lys
260 265 270

Gly Tyr His His Arg Thr Glu Ile Asn Lys Lys Ile Tyr Lys Ile Gly
275 280 285

Gln Gly Tyr Leu Ile Lys Asp Gly Lys Leu Ile Lys Asn Asn Ala Ser
290 295 300

Thr Asp Tyr Asp Leu Ser Asp Lys Ser Ile Asn Pro Leu Gly Gly Phe
305 310 315 320

Val His Tyr Gly Glu Val Thr Asn Asp Phe Val Met Leu Lys Gly Cys
325 330 335

Val Val Gly Thr Lys Lys Arg Val Leu Thr Leu Arg Lys Ser Leu Leu
340 345 350

Val Gln Thr Lys Arg Arg Ala Leu Glu Lys Ile Asp Leu Lys Phe Ile
355 360 365

Asp Thr Thr Ser Lys Phe Gly His Gly Arg Phe Gln Thr Met Glu Glu
370 375 380

Lys Lys Ala Phe Met Gly Pro Leu Lys Lys Asp Arg Ile Ala Lys Glu
385 390 395 400

Glu Gly Ala

<210> 233
<211> 480
<212> PRT
<213> Homo sapiens

<400> 233

Met Ala Val Ala Arg Ala Ala Leu Gly Pro Leu Val Thr Gly Leu Tyr
1 5 10 15

Asp Val Gln Ala Phe Lys Phe Gly Asp Phe Val Leu Lys Ser Gly Leu
20 25 30

Ser Ser Pro Ile Tyr Ile Asp Leu Arg Gly Ile Val Ser Arg Pro Arg
35 40 45

Leu Leu Ser Gln Val Ala Asp Ile Leu Phe Gln Thr Ala Gln Asn Ala
50 55 60

Gly Ile Ser Phe Asp Thr Val Cys Gly Val Pro Tyr Thr Ala Leu Pro
65 70 75 80

Leu Ala Thr Val Ile Cys Ser Thr Asn Gln Ile Pro Met Leu Ile Arg
85 90 95

Arg Lys Glu Thr Lys Asp Tyr Gly Thr Lys Arg Leu Val Glu Gly Thr
100 105 110

Ile Asn Pro Gly Glu Thr Cys Leu Ile Ile Glu Asp Val Val Thr Ser
115 120 125

Gly Ser Ser Val Leu Glu Thr Val Glu Val Leu Gln Lys Glu Gly Leu
130 135 140

Lys Val Thr Asp Ala Ile Val Leu Leu Asp Arg Glu Gln Gly Gly Lys
145 150 155 160

Asp Lys Leu Gln Ala His Gly Ile Arg Leu His Ser Val Cys Thr Leu
165 170 175

Ser Lys Met Leu Glu Ile Leu Glu Gln Gln Lys Lys Val Asp Ala Glu
180 185 190

Thr Val Gly Arg Val Lys Arg Phe Ile Gln Glu Asn Val Phe Val Ala
195 200 205

Ala Asn His Asn Gly Ser Pro Leu Ser Ile Lys Glu Ala Pro Lys Glu
210 215 220

Leu Ser Phe Gly Ala Arg Ala Glu Leu Pro Arg Ile His Pro Val Ala
225 230 235 240

Ser Lys Leu Leu Arg Leu Met Gln Lys Lys Glu Thr Asn Leu Cys Leu
245 250 255

Ser Ala Asp Val Ser Leu Ala Arg Glu Leu Leu Gln Leu Ala Asp Ala
260 265 270

Leu Gly Pro Ser Ile Cys Met Leu Lys Thr His Val Asp Ile Leu Asn
275 280 285

Asp Phe Thr Leu Asp Val Met Lys Glu Leu Ile Thr Leu Ala Lys Cys
290 295 300

His Glu Phe Leu Ile Phe Glu Asp Arg Lys Phe Ala Asp Ile Gly Asn
305 310 315 320

Thr Val Lys Lys Gln Tyr Glu Gly Gly Ile Phe Lys Ile Ala Ser Trp
325 330 335

Ala Asp Leu Val Asn Ala His Val Val Pro Gly Ser Gly Val Val Lys
340 345 350

Gly Leu Gln Glu Val Gly Leu Pro Leu His Arg Gly Cys Leu Leu Ile
355 360 365

Ala Glu Met Ser Ser Thr Gly Ser Leu Ala Thr Gly Asp Tyr Thr Arg
370 375 380

Ala Ala Val Arg Met Ala Glu Glu His Ser Glu Phe Val Val Gly Phe
385 390 395 400

Ile Ser Gly Ser Arg Val Ser Met Lys Pro Glu Phe Leu His Leu Thr
405 410 415

Pro Gly Val Gln Leu Glu Ala Gly Gly Asp Asn Leu Gly Gln Gln Tyr
420 425 430

Asn Ser Pro Gln Glu Val Ile Gly Lys Arg Gly Ser Asp Ile Ile Ile
435 440 445

Val Gly Arg Gly Ile Ile Ser Ala Ala Asp Arg Leu Glu Ala Ala Glu
450 455 460

Met Tyr Arg Lys Ala Ala Trp Glu Ala Tyr Leu Ser Arg Leu Gly Val
465 470 475 480

<210> 234

<211> 86

<212> PRT

<213> Homo sapiens

<400> 234

Met Tyr Leu Tyr Leu Ile Ser Ser Cys Ile Lys Pro Ile Asn Leu Cys
1 5 10 15

Tyr Cys Ser Ser Asn Leu Met His Thr Val Ile Ser Cys Tyr Ile Cys
20 25 30

Lys Val Gly Asn Cys Phe Leu Ser Tyr Arg Ser Phe Lys Leu His Phe
35 40 45

Cys Ala Val Glu Thr Lys Val Gly Tyr Ser Leu Cys His Val Asp Val
50 55 60

Gln Phe Leu Lys Leu Phe Tyr Lys Thr Leu Ile Ile Lys Pro Leu Asn
65 70 75 80

Leu Lys Lys Lys Lys Lys
85

<210> 235
<211> 54
<212> PRT
<213> Homo sapiens

<400> 235

Met Leu Cys Gly Asn Ile Tyr Pro Ile Asp His Pro Ile Leu Met Cys
1 5 10 15

Leu Trp Leu Ser Asp Gln Leu Gln Asn Asn Cys Val Val Ile Leu Cys
20 25 30

Pro Lys Leu Leu Ile Asn Phe Tyr Leu Gln Ile Glu Lys Glu Gly Pro
35 40 45

Cys Lys Glu Asn Gly Lys
50

<210> 236
<211> 672
<212> PRT
<213> Homo sapiens

<400> 236

Met Gly Val Gly Arg Leu Asp Met Tyr Val Leu His Pro Pro Ser Ala
1 5 10 15

Gly Ala Glu Arg Thr Leu Ala Ser Val Cys Ala Leu Leu Val Trp His
20 25 30

Pro Ala Gly Pro Gly Glu Lys Val Val Arg Val Leu Phe Pro Gly Cys
35 40 45

Thr Pro Pro Ala Cys Leu Leu Asp Gly Leu Val Arg Leu Gln His Leu
50 55 60

Arg Phe Leu Arg Glu Pro Val Val Thr Pro Gln Asp Leu Glu Gly Pro
65 70 75 80

Gly Arg Ala Glu Ser Lys Glu Ser Val Gly Ser Arg Asp Ser Ser Lys
85 90 95

Arg Glu Gly Leu Leu Ala Thr His Pro Arg Pro Gly Gln Glu Arg Pro
100 105 110

Gly Val Ala Arg Lys Glu Pro Ala Arg Ala Glu Ala Pro Arg Lys Thr
115 120 125

Glu Lys Glu Ala Lys Ala Pro Arg Glu Leu Lys Lys Asp Pro Lys Pro
130 135 140

Ser Val Ser Arg Thr Gln Pro Arg Glu Val Arg Arg Ala Ala Ser Ser

145 150 155 160

Val Pro Asp Leu Lys Lys Thr Asp Ala Gln Ala Ala Pro Lys Pro Arg
165 170 175

Lys Ala Pro Ser Thr Ser His Ser Gly Phe Pro Pro Val Ala Asp Gly
180 185 190

Pro Arg Ser Pro Pro Ser Leu Arg Cys Gly Glu Ala Ser Pro Pro Ser
195 200 205

Ala Ala Cys Gly Ser Pro Ala Ser Gln Leu Val Ala Thr Pro Ser Leu
210 215 220

Glu Leu Gly Pro Ile Pro Ala Gly Glu Glu Lys Ala Leu Glu Leu Pro
225 230 235 240

Leu Ala Ala Ser Ser Ile Pro Arg Pro Arg Thr Pro Ser Pro Glu Ser
245 250 255

His Arg Ser Pro Ala Glu Gly Ser Glu Arg Leu Ser Leu Ser Pro Leu
260 265 270

Arg Gly Gly Glu Ala Gly Pro Asp Ala Ser Pro Thr Val Thr Thr Pro
275 280 285

Thr Val Thr Thr Pro Ser Leu Pro Ala Glu Val Gly Ser Pro His Ser
290 295 300

Thr Glu Val Asp Glu Ser Leu Ser Val Ser Phe Glu Gln Val Leu Pro
305 310 315 320

Pro Ser Ala Pro Thr Ser Glu Ala Gly Leu Ser Leu Pro Leu Arg Gly
325 330 335

Pro Arg Ala Arg Arg Ser Ala Ser Pro His Asp Val Asp Leu Cys Leu
340 345 350

Val Ser Pro Cys Glu Phe Glu His Arg Lys Ala Val Pro Met Ala Pro
355 360 365

Ala Pro Ala Ser Pro Gly Ser Ser Asp Asp Ser Ser Ala Arg Ser Gln
370 375 380

Glu Arg Ala Gly Gly Leu Gly Ala Glu Glu Thr Pro Pro Thr Ser Val
385 390 395 400

Ser Glu Ser Leu Pro Thr Leu Ser Asp Ser Asp Pro Val Pro Leu Ala
405 410 415

Pro Gly Ala Ala Asp Ser Asp Glu Asp Thr Glu Gly Phe Gly Val Pro
420 425 430

Arg His Asp Pro Leu Pro Asp Pro Leu Lys Val Pro Pro Pro Leu Pro
435 440 445

Asp Pro Ser Ser Ile Cys Met Val Asp Pro Glu Met Leu Pro Pro Lys
450 455 460

Thr Ala Arg Gln Thr Glu Asp Val Ser Arg Thr Arg Lys Pro Leu Ala
465 470 475 480

Arg Pro Asp Ser Arg Ala Ala Ala Pro Lys Ala Thr Pro Val Ala Ala
485 490 495

Ala Lys Thr Lys Gly Leu Ala Gly Gly Asp Arg Ala Ser Arg Pro Leu
500 505 510

Ser Ala Arg Ser Glu Pro Ser Glu Lys Gly Gly Arg Ala Pro Leu Ser

515

520

525

Arg Lys Ser Ser Thr Pro Lys Thr Ala Thr Arg Gly Pro Ser Gly Ser
530 535 540

Ala Ser Ser Arg Pro Gly Val Ser Ala Thr Pro Pro Lys Ser Pro Val
545 550 555 560

Tyr Leu Asp Leu Ala Tyr Leu Pro Ser Gly Ser Ser Ala His Leu Val
565 570 575

Asp Glu Glu Phe Phe Gln Arg Val Arg Ala Leu Cys Tyr Val Ile Ser
580 585 590

Gly Gln Asp Gln Arg Lys Glu Glu Gly Met Arg Ala Val Leu Asp Ala
595 600 605

Leu Leu Ala Ser Lys Gln His Trp Asp Arg Asp Leu Gln Val Thr Leu
610 615 620

Ile Pro Thr Phe Asp Ser Val Ala Met His Thr Trp Tyr Ala Glu Thr
625 630 635 640

His Ala Arg His Gln Ala Leu Gly Ile Thr Val Leu Gly Ser Asp Ser
645 650 655

Met Val Ser Met Gln Asp Asp Ala Phe Pro Ala Cys Lys Val Glu Phe
660 665 670

<210> 237

<211> 222

<212> PRT

<213> Homo sapiens

<400> 237

Met Asn Ser Asn Val Glu Asn Leu Pro Pro His Ile Ile Arg Leu Val
1 5 10 15

Tyr Lys Glu Val Thr Thr Leu Thr Ala Asp Pro Pro Asp Gly Ile Lys
20 25 30

Val Phe Pro Asn Glu Glu Asp Leu Thr Asp Leu Gln Val Thr Ile Glu
35 40 45

Gly Pro Glu Gly Thr Pro Tyr Ala Gly Gly Leu Phe Arg Met Lys Leu
50 55 60

Leu Leu Gly Lys Asp Phe Pro Ala Ser Pro Pro Lys Gly Tyr Phe Leu
65 70 75 80

Thr Lys Ile Phe His Pro Asn Val Gly Ala Asn Gly Glu Ile Cys Val
85 90 95

Asn Val Leu Lys Arg Asp Trp Thr Ala Glu Leu Gly Ile Arg His Val
100 105 110

Leu Leu Thr Ile Lys Cys Leu Leu Ile His Pro Asn Pro Glu Ser Ala
115 120 125

Leu Asn Glu Glu Ala Gly Arg Leu Leu Leu Glu Asn Tyr Glu Glu Tyr
130 135 140

Ala Ala Arg Ala Arg Leu Leu Thr Glu Ile His Gly Gly Ala Gly Gly
145 150 155 160

Pro Ser Gly Arg Ala Glu Ala Gly Arg Ala Leu Ala Ser Gly Thr Glu
165 170 175

Ala Ser Ser Thr Asp Pro Gly Ala Pro Gly Gly Pro Gly Gly Ala Glu
180 185 190

Gly Thr Met Ala Lys Lys His Ala Gly Glu Arg Asp Lys Lys Leu Ala
195 200 205

Ala Lys Lys Lys Thr Asp Lys Lys Arg Ala Leu Arg Arg Leu
210 215 220

<210> 238

<211> 245

<212> PRT

<213> Homo sapiens

<400> 238

Met Ala Val Arg Ala Ser Phe Glu Asn Asn Cys Glu Ile Gly Cys Phe
1 5 10 15

Ala Lys Leu Thr Asn Thr Tyr Cys Leu Val Ala Ile Gly Gly Ser Glu
20 25 30

Asn Phe Tyr Ser Val Phe Glu Gly Glu Leu Ser Asp Thr Ile Pro Val
35 40 45

Val His Ala Ser Ile Ala Gly Cys Arg Ile Ile Gly Arg Met Cys Val
50 55 60

Gly Asn Arg His Gly Leu Leu Val Pro Asn Asn Thr Thr Asp Gln Glu
65 70 75 80

Leu Gln His Ile Arg Asn Ser Leu Pro Asp Thr Val Gln Ile Arg Arg
85 90 95

Val Glu Glu Arg Leu Ser Ala Leu Gly Asn Val Thr Thr Cys Asn Asp
100 105 110

Tyr Val Ala Leu Val His Pro Asp Leu Asp Arg Glu Thr Glu Glu Ile

115

120

125

Leu Ala Asp Val Leu Lys Val Glu Val Phe Arg Gln Thr Val Ala Asp
130 135 140

Gln Val Leu Val Gly Ser Tyr Cys Val Phe Ser Asn Gln Gly Gly Leu
145 150 155 160

Val His Pro Lys Thr Ser Ile Glu Asp Gln Asp Glu Leu Ser Ser Leu
165 170 175

Leu Gln Val Pro Leu Val Ala Gly Thr Val Asn Arg Gly Ser Glu Val
180 185 190

Ile Ala Ala Gly Met Val Val Asn Asp Trp Cys Ala Phe Cys Gly Leu
195 200 205

Asp Thr Thr Ser Thr Glu Leu Ser Val Val Glu Ser Val Phe Lys Leu
210 215 220

Asn Glu Ala Gln Pro Ser Thr Ile Ala Thr Ser Met Arg Asp Ser Leu
225 230 235 240

Ile Asp Ser Leu Thr
245

<210> 239

<211> 117

<212> PRT

<213> Homo sapiens

<400> 239

Met Glu Ser Gly Ala Lys Gly Cys Glu Val Val Val Ser Gly Lys Leu
1 5 10 15

Arg Gly Gln Arg Ala Lys Ser Met Lys Phe Val Asp Gly Leu Met Ile
20 25 30

His Ser Gly Asp Pro Val Asn Tyr Tyr Val Asp Thr Ala Val Arg His
35 40 45

Val Leu Leu Arg Gln Gly Val Leu Gly Ile Lys Val Lys Ile Met Leu
50 55 60

Pro Trp Asp Pro Thr Gly Lys Ile Gly Pro Lys Lys Pro Leu Pro Asp
65 70 75 80

His Val Ser Ile Val Glu Pro Lys Asp Glu Ile Leu Pro Thr Thr Pro
85 90 95

Ile Ser Glu Gln Lys Gly Gly Lys Pro Glu Pro Pro Ala Met Pro Gln
100 105 110

Pro Val Pro Thr Ala
115

<210> 240
<211> 444
<212> PRT
<213> Homo sapiens
<400> 240

Met Arg Glu Ile Val His Ile Gln Ala Gly Gln Cys Gly Asn Gln Ile
1 5 10 15

Gly Ala Lys Phe Trp Glu Val Ile Ser Asp Glu His Gly Ile Asp Pro
20 25 30

Thr Gly Thr Tyr His Gly Asp Ser Asp Leu Gln Leu Asp Arg Ile Ser
35 40 45

Val Tyr Tyr Asn Glu Ala Thr Gly Gly Lys Tyr Val Pro Arg Ala Ile
50 55 60

Leu Val Asp Leu Glu Pro Gly Thr Met Asp Ser Val Arg Ser Gly Pro
65 70 75 80

Phe Gly Gln Ile Phe Arg Pro Asp Asn Phe Val Phe Gly Gln Ser Gly
85 90 95

Ala Gly Asn Asn Trp Ala Lys Gly His Tyr Thr Glu Gly Ala Glu Leu
100 105 110

Val Asp Ser Val Leu Asp Val Val Arg Lys Glu Ala Glu Ser Cys Asp
115 120 125

Cys Leu Gln Gly Phe Gln Leu Thr His Ser Leu Gly Gly Thr Gly
130 135 140

Ser Gly Met Gly Thr Leu Leu Ile Ser Lys Ile Arg Glu Glu Tyr Pro
145 150 155 160

Asp Arg Ile Met Asn Thr Phe Ser Val Val Pro Ser Pro Lys Val Ser
165 170 175

Asp Thr Val Val Glu Pro Tyr Asn Ala Thr Leu Ser Val His Gln Leu
180 185 190

Val Glu Asn Thr Asp Glu Thr Tyr Cys Ile Asp Asn Glu Ala Leu Tyr
195 200 205

Asp Ile Cys Phe Arg Thr Leu Lys Leu Thr Thr Pro Thr Tyr Gly Asp
210 215 220

Leu Asn His Leu Val Ser Ala Thr Met Ser Gly Val Thr Thr Cys Leu

225	230	235	240
Arg Phe Pro Gly Gln Leu Asn Ala Asp Leu Arg Lys Leu Ala Val Asn			
245	250	255	
Met Val Pro Phe Pro Arg Leu His Phe Phe Met Pro Gly Phe Ala Pro			
260	265	270	
Leu Thr Ser Arg Gly Ser Gln Gln Tyr Arg Ala Leu Thr Val Pro Glu			
275	280	285	
Leu Thr Gln Gln Val Phe Asp Ala Lys Asn Met Met Ala Ala Cys Asp			
290	295	300	
Pro Arg His Gly Arg Tyr Leu Thr Val Ala Ala Val Phe Arg Gly Arg			
305	310	315	320
Met Ser Met Lys Glu Val Asp Glu Gln Met Leu Asn Val Gln Asn Lys			
325	330	335	
Asn Ser Ser Tyr Phe Val Glu Trp Ile Pro Asn Asn Val Lys Thr Ala			
340	345	350	
Val Cys Asp Ile Pro Pro Arg Gly Leu Lys Met Ala Val Thr Phe Ile			
355	360	365	
Gly Asn Ser Thr Ala Ile Gln Glu Leu Phe Lys Arg Ile Ser Glu Gln			
370	375	380	
Phe Thr Ala Met Phe Arg Arg Lys Ala Phe Leu His Trp Tyr Thr Gly			
385	390	395	400
Glu Gly Met Asp Glu Met Glu Phe Thr Glu Ala Glu Ser Asn Met Asn			
405	410	415	

Asp Leu Val Ser Glu Tyr Gln Gln Tyr Gln Asp Ala Thr Ala Glu Glu
420 425 430

Glu Glu Asp Phe Gly Glu Glu Ala Glu Glu Glu Ala
435 440

<210> 241
<211> 92
<212> PRT
<213> Homo sapiens

<400> 241

Met Asp Glu Gln Ile Arg Leu Met Asp Gln Asn Leu Lys Cys Leu Ser
1 5 10 15

Ala Ala Glu Glu Lys Tyr Ser Gln Lys Glu Asp Lys Tyr Glu Glu Glu
20 25 30

Ile Lys Ile Leu Thr Asp Lys Leu Lys Glu Ala Glu Thr Arg Ala Glu
35 40 45

Phe Ala Glu Arg Ser Val Ala Lys Leu Glu Lys Thr Ile Asp Asp Leu
50 55 60

Glu Asp Lys Leu Lys Cys Thr Lys Glu Glu His Leu Cys Thr Gln Arg
65 70 75 80

Met Leu Asp Gln Thr Leu Leu Asp Leu Asn Glu Met
85 90

<210> 242
<211> 453
<212> PRT
<213> Homo sapiens

<400> 242

Met Val Met Gly Ile Thr Asp Val Asp Asp Lys Ile Ile Lys Arg Ala
1 5 10 15

Asn Glu Met Asn Ile Ser Pro Ala Ser Leu Ala Ser Leu Tyr Glu Glu
20 25 30

Asp Phe Lys Gln Asp Met Ala Ala Leu Lys Val Leu Pro Pro Thr Val
35 40 45

Tyr Leu Arg Val Thr Glu Asn Ile Pro Gln Ile Ile Ser Phe Ile Glu
50 55 60

Gly Ile Ile Ala Ser Trp Glu Arg Leu Phe Asn Gly Lys Arg Gln Cys
65 70 75 80

Leu Leu Arg Ser Glu Ser Leu Glu Glu Thr Lys Tyr Gly Lys Ile Gly
85 90 95

Arg Arg Gly Pro Trp Ser Ser Pro Glu Thr Ser Gly Leu Leu Thr Ser
100 105 110

Arg His Ala Asn Asp Phe Ala Leu Trp Lys Ala Ala Lys Pro Gln Glu
115 120 125

Val Phe Trp Ala Ser Pro Trp Gly Pro Gly Arg Pro Gly Trp His Ile
130 135 140

Glu Cys Ser Ala Ile Ala Ser Met Val Phe Gly Ser Gln Leu Asp Ile
145 150 155 160

His Ser Gly Gly Ile Asp Leu Ala Phe Pro His His Glu Asn Glu Ile
165 170 175

Ala Gln Cys Glu Val Phe His Gln Cys Glu Gln Trp Gly Asn Tyr Phe

180

185

190

Leu His Ser Gly His Leu His Ala Lys Gly Lys Glu Glu Lys Met Ser
195 200 205

Lys Ser Leu Lys Asn Tyr Ile Thr Ile Lys Asp Phe Leu Lys Thr Phe
210 215 220

Ser Pro Asp Val Phe Arg Phe Phe Cys Leu Arg Ser Ser Tyr Arg Ser
225 230 235 240

Ala Ile Asp Tyr Ser Asp Ser Ala Met Leu Gln Ala Gln Gln Leu Leu
245 250 255

Leu Gly Leu Gly Ser Phe Leu Glu Asp Ala Arg Ala Tyr Met Lys Gly
260 265 270

Gln Leu Ala Cys Gly Ser Val Arg Glu Ala Met Leu Trp Glu Arg Leu
275 280 285

Ser Ser Thr Lys Arg Ala Val Lys Ala Ala Leu Ala Asp Asp Phe Asp
290 295 300

Thr Pro Arg Val Val Asp Ala Ile Leu Gly Leu Ala His His Gly Asn
305 310 315 320

Gly Gln Leu Arg Ala Ser Leu Lys Glu Pro Glu Gly Pro Arg Ser Pro
325 330 335

Ala Val Phe Gly Ala Ile Ile Ser Tyr Phe Glu Gln Phe Phe Glu Thr
340 345 350

Val Gly Ile Ser Leu Ala Asn Gln Gln Tyr Val Ser Gly Asp Gly Ser
355 360 365

Glu Ala Thr Leu His Gly Val Val Asp Glu Leu Val Arg Phe Arg Gln
370 375 380

Lys Val Arg Gln Phe Ala Leu Ala Met Pro Glu Ala Thr Gly Asp Ala
385 390 395 400

Arg Arg Gln Gln Leu Leu Glu Arg Gln Pro Leu Leu Glu Ala Cys Asp
405 410 415

Thr Leu Arg Arg Gly Leu Thr Ala His Gly Ile Asn Ile Lys Asp Arg
420 425 430

Ser Ser Thr Thr Ser Thr Trp Glu Leu Leu Asp Gln Arg Thr Lys Asp
435 440 445

Gln Lys Ser Ala Gly
450

<210> 243
<211> 209
<212> PRT
<213> Homo sapiens

<400> 243

Met Lys Glu Leu Ala Glu Glu Glu Pro His Leu Val Glu Gln Phe Gln
1 5 10 15

Lys Leu Ser Glu Ala Ala Gly Arg Val Gly Ser Asp Met Thr Ser Gln
20 25 30

Gln Glu Phe Thr Ser Cys Leu Lys Glu Thr Leu Ser Gly Leu Ala Lys
35 40 45

Asn Ala Thr Asp Leu Gln Asn Ser Ser Met Ser Glu Glu Glu Leu Thr
50 55 60

Lys Ala Met Glu Gly Leu Gly Met Asp Glu Gly Asp Gly Glu Gly Asn
65 70 75 80

Ile Leu Pro Ile Met Gln Ser Ile Met Gln Asn Leu Leu Ser Lys Asp
85 90 95

Val Leu Tyr Pro Ser Leu Lys Glu Ile Thr Glu Lys Tyr Pro Glu Trp
100 105 110

Leu Gln Ser His Arg Glu Ser Leu Pro Pro Glu Gln Phe Glu Lys Tyr
115 120 125

Gln Glu Gln His Ser Val Met Cys Lys Ile Cys Glu Gln Phe Glu Ala
130 135 140

Glu Thr Pro Thr Asp Ser Glu Thr Thr Gln Lys Ala Arg Phe Glu Met
145 150 155 160

Val Leu Asp Leu Met Gln Gln Leu Gln Asp Leu Gly His Pro Pro Lys
165 170 175

Glu Leu Ala Gly Glu Met Pro Pro Gly Leu Asn Phe Asp Leu Asp Ala
180 185 190

Leu Asn Leu Ser Gly Pro Pro Gly Ala Ser Gly Glu Gln Cys Leu Ile
195 200 205

Met

<210> 244
<211> 354
<212> PRT
<213> Homo sapiens

<400> 244

Met Arg Arg Leu Met Ser Ser Arg Asp Trp Pro Arg Thr Arg Thr Gly
1 5 10 15

Thr Gly Ile Leu Ser Ser Gln Pro Glu Glu Asn Pro Tyr Trp Trp Asn
20 25 30

Ala Asn Met Val Phe Ile Pro Tyr Cys Ser Ser Asp Val Trp Ser Gly
35 40 45

Ala Ser Ser Lys Ser Glu Lys Asn Glu Tyr Ala Phe Met Gly Ala Leu
50 55 60

Ile Ile Gln Glu Val Val Arg Glu Leu Leu Gly Arg Gly Leu Ser Gly
65 70 75 80

Ala Lys Val Leu Leu Ala Gly Ser Ser Ala Gly Gly Thr Gly Val
85 90 95

Leu Leu Asn Val Asp Arg Val Ala Glu Gln Leu Glu Lys Leu Gly Tyr
100 105 110

Pro Ala Ile Gln Val Arg Gly Leu Ala Asp Ser Gly Trp Phe Leu Asp
115 120 125

Asn Lys Gln Tyr Arg His Thr Asp Cys Val Asp Thr Ile Thr Cys Ala
130 135 140

Pro Thr Glu Ala Ile Arg Arg Gly Ile Arg Tyr Trp Asn Gly Val Val
145 150 155 160

Pro Glu Arg Cys Arg Arg Gln Phe Gln Glu Gly Glu Glu Trp Asn Cys
165 170 175

Phe Phe Gly Tyr Lys Val Tyr Pro Thr Leu Arg Cys Pro Val Phe Val
180 185 190

Val Gln Trp Leu Phe Asp Glu Ala Gln Leu Thr Val Asp Asn Val His
195 200 205

Leu Thr Gly Gln Pro Val Gln Glu Gly Leu Arg Leu Tyr Ile Gln Asn
210 215 220

Leu Gly Arg Glu Leu Arg His Thr Leu Lys Asp Val Pro Ala Ser Phe
225 230 235 240

Ala Pro Ala Cys Leu Ser His Glu Ile Ile Ile Arg Ser His Trp Thr
245 250 255

Asp Val Gln Val Lys Gly Thr Ser Leu Pro Arg Ala Leu His Cys Trp
260 265 270

Asp Arg Ser Leu His Asp Ser His Lys Ala Ser Lys Thr Pro Leu Lys
275 280 285

Gly Cys Pro Val His Leu Val Asp Ser Cys Pro Trp Pro His Cys Asn
290 295 300

Pro Ser Cys Pro Thr Val Arg Asp Gln Phe Thr Gly Gln Glu Met Asn
305 310 315 320

Val Ala Gln Phe Leu Met His Met Gly Phe Asp Met Gln Thr Val Ala
325 330 335

Gln Pro Gln Gly Leu Glu Pro Ser Glu Leu Leu Gly Met Leu Ser Asn
340 345 350

Gly Ser

<210> 245
<211> 295
<212> PRT
<213> Homo sapiens

<400> 245

Met Glu Leu Ile Gln Asp Thr Ser Arg Pro Pro Leu Glu Tyr Val Lys
1 5 10 15

Gly Val Pro Leu Ile Lys Tyr Phe Ala Glu Ala Leu Gly Pro Leu Gln
20 25 30

Ser Phe Gln Ala Arg Pro Asp Asp Leu Leu Ile Ser Thr Tyr Pro Lys
35 40 45

Ser Gly Thr Thr Trp Val Ser Gln Ile Leu Asp Met Ile Tyr Gln Gly
50 55 60

Gly Asp Leu Glu Lys Cys His Arg Ala Pro Ile Phe Met Arg Val Pro
65 70 75 80

Phe Leu Glu Phe Lys Ala Pro Gly Ile Pro Ser Gly Met Glu Thr Leu
85 90 95

Lys Asp Thr Pro Ala Pro Arg Leu Leu Lys Thr His Leu Pro Leu Ala
100 105 110

Leu Leu Pro Gln Thr Leu Leu Asp Gln Lys Val Lys Val Val Tyr Val
115 120 125

Ala Arg Asn Ala Lys Asp Val Ala Val Ser Tyr Tyr His Phe Tyr His
130 135 140

Met Ala Lys Val His Pro Glu Pro Gly Thr Trp Asp Ser Phe Leu Glu
145 150 155 160

Lys Phe Met Val Gly Glu Val Ser Tyr Gly Ser Trp Tyr Gln His Val
165 170 175

Gln Glu Trp Trp Glu Leu Ser Arg Thr His Pro Val Leu Tyr Leu Phe
180 185 190

Tyr Glu Asp Met Lys Glu Asn Pro Lys Arg Glu Ile Gln Lys Ile Leu
195 200 205

Glu Phe Val Gly His Ser Leu Pro Glu Glu Thr Val Asp Phe Met Val
210 215 220

Gln His Thr Ser Phe Lys Glu Met Lys Lys Asn Pro Met Thr Asn Tyr
225 230 235 240

Thr Thr Val Pro Gln Glu Phe Met Asp His Ser Ile Ser Pro Phe Met
245 250 255

Arg Lys Gly Met Ala Gly Asp Trp Lys Thr Thr Phe Thr Val Ala Gln
260 265 270

Asn Glu Arg Phe Asp Ala Asp Tyr Ala Glu Lys Met Ala Gly Cys Ser
275 280 285

Leu Ser Phe Arg Ser Glu Leu
290 295

<210> 246
<211> 439
<212> PRT
<213> Homo sapiens

<400> 246

Met Glu Pro Ser Thr Ala Ala Arg Ala Trp Ala Leu Phe Trp Leu Leu
1 5 10 15

Leu Pro Leu Leu Gly Ala Val Cys Ala Ser Gly Pro Arg Thr Leu Val
20 25 30

Leu Leu Asp Asn Leu Asn Val Arg Glu Thr His Ser Leu Phe Phe Arg
35 40 45

Ser Leu Lys Asp Arg Gly Phe Glu Leu Thr Phe Lys Thr Ala Asp Asp
50 55 60

Pro Ser Leu Ser Leu Ile Lys Tyr Gly Glu Phe Leu Tyr Asp Asn Leu
65 70 75 80

Ile Ile Phe Ser Pro Ser Val Glu Asp Phe Gly Gly Asn Ile Asn Val
85 90 95

Glu Thr Ile Ser Ala Phe Ile Asp Gly Gly Ser Val Leu Val Ala
100 105 110

Ala Ser Ser Asp Ile Gly Asp Pro Leu Arg Glu Leu Gly Ser Glu Cys
115 120 125

Gly Ile Glu Phe Asp Glu Glu Lys Thr Ala Val Ile Asp His His Asn
130 135 140

Tyr Asp Ile Ser Asp Leu Gly Gln His Thr Leu Ile Val Ala Asp Thr
145 150 155 160

Glu Asn Leu Leu Lys Ala Pro Thr Ile Val Gly Lys Ser Ser Leu Asn
165 170 175

Pro Ile Leu Phe Arg Gly Val Gly Met Val Ala Asp Pro Asp Asn Pro

180

185

190

Leu Val Leu Asp Ile Leu Thr Gly Ser Ser Thr Ser Tyr Ser Phe Phe
195 200 205

Pro Asp Lys Pro Ile Thr Gln Tyr Pro His Ala Val Gly Lys Asn Thr
210 215 220

Leu Leu Ile Ala Gly Leu Gln Ala Arg Asn Asn Ala Arg Val Ile Phe
225 230 235 240

Ser Gly Ser Leu Asp Phe Phe Ser Asp Ser Phe Phe Asn Ser Ala Val
245 250 255

Gln Lys Ala Ala Pro Gly Ser Gln Arg Tyr Ser Gln Thr Gly Asn Tyr
260 265 270

Glu Leu Ala Val Ala Leu Ser Arg Trp Val Phe Lys Glu Glu Gly Val
275 280 285

Leu Arg Val Gly Pro Val Ser His His Arg Val Gly Glu Thr Ala Pro
290 295 300

Pro Asn Ala Tyr Thr Val Thr Asp Leu Val Glu Tyr Ser Ile Val Ile
305 310 315 320

Gln Gln Leu Ser Asn Gly Lys Trp Val Pro Phe Asp Gly Asp Asp Ile
325 330 335

Gln Leu Glu Phe Val Arg Ile Asp Pro Phe Val Arg Thr Phe Leu Lys
340 345 350

Lys Lys Gly Gly Lys Tyr Ser Val Gln Phe Lys Leu Pro Asp Val Tyr
355 360 365

Gly Val Phe Gln Phe Lys Val Asp Tyr Asn Arg Leu Gly Tyr Thr His
370 375 380

Leu Tyr Ser Ser Thr Gln Val Ser Val Arg Pro Leu Gln His Thr Gln
385 390 395 400

Tyr Glu Arg Phe Ile Pro Ser Ala Tyr Pro Tyr Tyr Ala Ser Ala Phe
405 410 415

Ser Met Met Leu Gly Leu Phe Ile Phe Ser Ile Val Phe Leu His Met
420 425 430

Lys Glu Lys Glu Lys Ser Asp
435

<210> 247

<211> 56

<212> PRT

<213> Homo sapiens

<400> 247

Met Glu Thr Leu His Thr Trp Gly Ser Lys Val Leu Gly Tyr Ser Trp
1 5 10 15

Ile Phe Arg Thr Ser Ala Tyr Pro Gln Val Ser Gln Ala Ser Gly Gly
20 25 30

Glu Ala Ser Asp Pro Trp Pro Thr Cys Tyr Pro Pro Gln Gly Leu Asp
35 40 45

Leu Ser Ser Arg Glu Gly Thr Glu
50 55

<210> 248

<211> 46

<212> PRT

<213> Homo sapiens

<400> 248

Met Gly Phe Lys Gly Pro Gly Val Phe Leu Asp Leu Gln Asp Ile Cys
1 5 10 15

Leu Pro Ser Gly Phe Pro Gly Leu Gly Trp Gly Gly Ile Arg Ser Leu
20 25 30

Ala Asn Leu Leu Ser Thr Pro Gly Phe Arg Pro Leu Phe Pro
35 40 45

<210> 249

<211> 61

<212> PRT

<213> Homo sapiens

<400> 249

Ile Gly Thr Val Phe Leu Glu Gly Asn Leu Val Lys Cys Ile Lys Arg
1 5 10 15

Leu Lys Asn Thr Asp Val Leu Cys Ala Gly Asn Ser Thr Ser Ser Asn
20 25 30

Phe Ser Leu Lys Pro Tyr Gln Arg Cys Ile Gln Arg Ile Ile Tyr Lys
35 40 45

Glu Gly Cys Leu Ile Met Ile Val Ile Ile Ile Asn Asn
50 55 60

<210> 250

<211> 73

<212> PRT

<213> Homo sapiens

<400> 250

Met Phe Asp Ser Pro Phe Tyr Glu Leu Asn Tyr Phe Ile Arg Val Gly
1 5 10 15

Asn Phe Cys Phe Leu Ile Lys Trp Lys Leu Ala Phe Leu Thr Leu Phe
20 25 30

Leu Leu Leu Phe Tyr Arg Asn Ala Phe Cys Trp Pro Gly Thr Val Ala
35 40 45

His Pro Cys Asn Pro Ser Thr Val Gly Gly Arg Asp Gly Trp Ile Thr
50 55 60

Arg Ser Gly Asp Arg Asp His Pro Gly
65 70

<210> 251
<211> 43
<212> PRT
<213> Homo sapiens

<400> 251

Met Leu Phe Val Gly Arg Ala Gln Leu Leu Ile His Val Ile Pro Ala
1 5 10 15

Leu Trp Glu Ala Glu Thr Gly Gly Ser Gln Gly Gln Glu Ile Glu Thr
20 25 30

Ile Leu Ala Asn Ala Leu Lys Leu Arg Leu Cys
35 40

<210> 252
<211> 30
<212> PRT
<213> Homo sapiens

<400> 252

Met Tyr Ile Phe Phe Cys Val Leu Phe Leu Leu Leu Leu Phe Glu
1 5 10 15

Thr Gly Ser Cys Ser Val Ala Gln Ala Gly Val Gln Trp His
20 25 30

<210> 253
<211> 87
<212> PRT
<213> Homo sapiens

<400> 253

Met Asn Cys Asn Thr Gln Ser Gln Thr Arg Ala Leu Pro Arg Pro Leu
1 5 10 15

Gly Gly Cys Thr Pro Ser Ser Ser Ala Arg Leu Arg Ser Leu Arg Pro
20 25 30

Arg Leu Lys Glu Gly Val Ala Gly Asn Pro Gly Asn Leu Ser Glu Val
35 40 45

Thr Pro His Pro Tyr Thr Pro Ser Val His Pro Arg Leu Phe Leu Leu
50 55 60

Leu Phe Gly Phe Trp Lys Gly Ile His Leu Gln Ala Ala His Pro Gly
65 70 75 80

Gly Ala Cys Phe Leu Lys Pro
85

<210> 254
<211> 211
<212> PRT
<213> Homo sapiens

<400> 254

Met Ala Pro Ser Arg Asn Gly Met Val Leu Lys Pro His Phe His Lys
1 5 10 15

Asp Trp Gln Arg Arg Val Ala Thr Trp Phe Asn Gln Pro Ala Arg Lys
20 25 30

Ile Arg Arg Arg Lys Ala Arg Gln Ala Lys Ala Arg Arg Ile Ala Pro
35 40 45

Arg Pro Ala Ser Gly Pro Ile Arg Pro Ile Val Arg Cys Pro Thr Val
50 55 60

Arg Tyr His Thr Lys Val Arg Ala Gly Arg Gly Phe Ser Leu Glu Glu
65 70 75 80

Leu Arg Val Ala Gly Ile His Lys Lys Val Ala Arg Thr Ile Gly Ile
85 90 95

Ser Val Asp Pro Arg Arg Asn Lys Ser Thr Glu Ser Leu Gln Ala
100 105 110

Asn Val Gln Arg Leu Lys Glu Tyr Arg Ser Lys Leu Ile Leu Phe Pro
115 120 125

Arg Lys Pro Ser Ala Pro Lys Lys Gly Asp Ser Ser Ala Glu Glu Leu
130 135 140

Lys Leu Ala Thr Gln Leu Thr Gly Pro Val Met Pro Val Arg Asn Val
145 150 155 160

Tyr Lys Lys Glu Lys Ala Arg Val Ile Thr Glu Glu Glu Lys Asn Phe
165 170 175

Lys Ala Phe Ala Ser Leu Arg Met Ala Arg Ala Asn Ala Arg Leu Phe

180

185

190

Gly Ile Arg Ala Lys Arg Ala Lys Glu Ala Ala Glu Gln Asp Val Glu
195 200 205

Lys Lys Lys
210

<210> 255
<211> 417
<212> PRT
<213> Homo sapiens

<400> 255

Met Ser Leu Ser Asn Lys Leu Thr Leu Asp Lys Leu Asp Val Lys Gly
1 5 10 15

Lys Arg Val Val Met Arg Val Asp Phe Asn Val Pro Met Lys Asn Asn
20 25 30

Gln Ile Thr Asn Asn Gln Arg Ile Lys Ala Ala Val Pro Ser Ile Lys
35 40 45

Phe Cys Leu Asp Asn Gly Ala Lys Ser Val Val Leu Met Ser His Leu
50 55 60

Gly Arg Pro Asp Gly Val Pro Met Pro Asp Lys Tyr Ser Leu Glu Pro
65 70 75 80

Val Ala Val Glu Leu Lys Ser Leu Leu Gly Lys Asp Val Leu Phe Leu
85 90 95

Lys Asp Cys Val Gly Pro Glu Val Glu Lys Ala Cys Ala Asn Pro Ala
100 105 110

Ala Gly Ser Val Ile Leu Leu Glu Asn Leu Arg Phe His Val Glu Glu
115 120 125

Glu Gly Lys Gly Lys Asp Ala Ser Gly Asn Lys Val Lys Ala Glu Pro
130 135 140

Ala Lys Ile Glu Ala Phe Arg Ala Ser Leu Ser Lys Leu Gly Asp Val
145 150 155 160

Tyr Val Asn Asp Ala Phe Gly Thr Ala His Arg Ala His Ser Ser Met
165 170 175

Val Gly Val Asn Leu Pro Gln Lys Ala Gly Gly Phe Leu Met Lys Lys
180 185 190

Glu Leu Asn Tyr Phe Ala Lys Ala Leu Glu Ser Pro Glu Arg Pro Phe
195 200 205

Leu Ala Ile Leu Gly Gly Ala Lys Val Ala Asp Lys Ile Gln Leu Ile
210 215 220

Asn Asn Met Leu Asp Lys Val Asn Glu Met Ile Ile Gly Gly Met
225 230 235 240

Ala Phe Thr Phe Leu Lys Val Leu Asn Asn Met Glu Ile Gly Thr Ser
245 250 255

Leu Phe Asp Glu Glu Gly Ala Lys Ile Val Lys Asp Leu Met Ser Lys
260 265 270

Ala Glu Lys Asn Gly Val Lys Ile Thr Leu Pro Val Asp Phe Val Thr
275 280 285

Ala Asp Lys Phe Asp Glu Asn Ala Lys Thr Gly Gln Ala Thr Val Ala
290 295 300

Ser Gly Ile Pro Ala Gly Trp Met Gly Leu Asp Cys Gly Pro Glu Ser
305 310 315 320

Ser Lys Lys Tyr Ala Glu Ala Val Thr Arg Ala Lys Gln Ile Val Trp
325 330 335

Asn Gly Pro Val Gly Val Phe Glu Trp Glu Ala Phe Ala Arg Gly Thr
340 345 350

Lys Ala Leu Met Asp Glu Val Val Lys Ala Thr Ser Arg Gly Cys Ile
355 360 365

Thr Ile Ile Gly Gly Asp Thr Ala Thr Cys Cys Ala Lys Trp Asn
370 375 380

Thr Glu Asp Lys Val Ser His Val Ser Thr Gly Gly Ala Ser Leu
385 390 395 400

Glu Leu Leu Glu Gly Lys Val Leu Pro Gly Val Asp Ala Leu Ser Asn
405 410 415

Ile

<210> 256
<211> 568
<212> PRT
<213> Homo sapiens

<400> 256

Met Val Leu Gly Pro Glu Gln Lys Met Ser Asp Asp Ser Val Ser Gly
1 5 10 15

Asp His Gly Glu Ser Ala Ser Leu Gly Asn Ile Asn Pro Ala Tyr Ser

20

25

30

Asn Pro Ser Leu Ser Gln Ser Pro Gly Asp Ser Glu Glu Tyr Phe Ala
35 40 45

Thr Tyr Phe Asn Glu Lys Ile Ser Ile Pro Glu Glu Glu Tyr Ser Cys
50 55 60

Phe Ser Phe Arg Lys Leu Trp Ala Phe Thr Gly Pro Gly Phe Leu Met
65 70 75 80

Ser Ile Ala Tyr Leu Asp Pro Gly Asn Ile Glu Ser Asp Leu Gln Ser
85 90 95

Gly Ala Val Ala Gly Phe Lys Leu Leu Trp Ile Leu Leu Leu Ala Thr
100 105 110

Leu Val Gly Leu Leu Leu Gln Arg Leu Ala Ala Arg Leu Gly Val Val
115 120 125

Thr Gly Leu His Leu Ala Glu Val Cys His Arg Gln Tyr Pro Lys Val
130 135 140

Pro Arg Val Ile Leu Trp Leu Met Val Glu Leu Ala Ile Ile Gly Ser
145 150 155 160

Asp Met Gln Glu Val Ile Gly Ser Ala Ile Ala Ile Asn Leu Leu Ser
165 170 175

Val Gly Arg Ile Pro Leu Trp Gly Gly Val Leu Ile Thr Ile Ala Asp
180 185 190

Thr Phe Val Phe Leu Phe Leu Asp Lys Tyr Gly Leu Arg Lys Leu Glu
195 200 205

Ala Phe Phe Gly Phe Leu Ile Thr Ile Met Ala Leu Thr Phe Gly Tyr
210 215 220

Glu Tyr Val Thr Val Lys Pro Ser Gln Ser Gln Val Leu Lys Gly Met
225 230 235 240

Phe Val Pro Ser Cys Ser Gly Cys Arg Thr Pro Gln Ile Glu Gln Ala
245 250 255

Val Gly Ile Val Gly Ala Val Ile Met Pro His Asn Met Tyr Leu His
260 265 270

Ser Ala Leu Val Lys Ser Arg Gln Val Asn Arg Asn Asn Lys Gln Glu
275 280 285

Val Arg Glu Ala Asn Lys Tyr Phe Phe Ile Glu Ser Cys Ile Ala Leu
290 295 300

Phe Val Ser Phe Ile Ile Asn Val Phe Val Val Ser Val Phe Ala Glu
305 310 315 320

Ala Phe Phe Gly Lys Thr Asn Glu Gln Val Val Glu Val Cys Thr Asn
325 330 335

Thr Ser Ser Pro His Ala Gly Leu Phe Pro Lys Asp Asn Ser Thr Leu
340 345 350

Ala Val Asp Ile Tyr Lys Gly Gly Val Val Leu Gly Cys Tyr Phe Gly
355 360 365

Pro Ala Ala Leu Tyr Ile Trp Ala Val Gly Ile Leu Ala Ala Gly Gln
370 375 380

Ser Ser Thr Met Thr Gly Thr Tyr Ser Gly Gln Phe Val Met Glu Gly

385	390	395	400
Phe Leu Asn Leu Lys Trp Ser Arg Phe Ala Arg Val Val Leu Thr Arg			
405	410	415	
Ser Ile Ala Ile Ile Pro Thr Leu Leu Val Ala Val Phe Gln Asp Val			
420	425	430	
Glu His Leu Thr Gly Met Asn Asp Phe Leu Asn Val Leu Gln Ser Leu			
435	440	445	
Gln Leu Pro Phe Ala Leu Ile Pro Ile Leu Thr Phe Thr Ser Leu Arg			
450	455	460	
Pro Val Met Ser Asp Phe Ala Asn Gly Leu Gly Trp Arg Ile Ala Gly			
465	470	475	480
Gly Ile Leu Val Leu Ile Ile Cys Ser Ile Asn Met Tyr Phe Val Val			
485	490	495	
Val Tyr Val Arg Asp Leu Gly His Val Ala Leu Tyr Val Val Ala Ala			
500	505	510	
Val Val Ser Val Ala Tyr Leu Gly Phe Val Phe Tyr Leu Gly Trp Gln			
515	520	525	
Cys Leu Ile Ala Leu Gly Met Ser Phe Leu Asp Cys Gly His Thr Cys			
530	535	540	
His Leu Gly Leu Thr Ala Gln Pro Glu Leu Tyr Leu Leu Asn Thr Met			
545	550	555	560
Asp Ala Asp Ser Leu Val Ser Arg			
565			

<210> 257
<211> 46
<212> PRT
<213> Homo sapiens

<400> 257

Met Leu Phe Ile His Ala Glu Val Ile Gln Phe Pro Pro Ser Tyr Arg
1 5 10 15

Ser Ile Leu Ile His Pro Thr Leu Glu Met Gln His Leu Cys Gly Arg
20 25 30

Leu Phe His Lys Pro Pro Arg Leu Leu Arg Leu Gly Arg Tyr
35 40 45

<210> 258
<211> 36
<212> PRT
<213> Homo sapiens

<400> 258

Met Ala Ser Leu Gln Phe Val Ile Ser Leu Pro Val Cys Ser Leu Lys
1 5 10 15

Leu Ile Lys Arg Ser Gly Tyr Ile Glu Leu Leu Tyr Arg Cys Glu Gly
20 25 30

Met Asp Lys Ser
35

<210> 259
<211> 898
<212> PRT
<213> Homo sapiens

<400> 259

Met Ser Val Thr Glu Glu Asp Leu Cys His His Met Lys Val Val Val
1 5 10 15

Arg Val Arg Pro Glu Asn Thr Lys Glu Lys Ala Ala Gly Phe His Lys
20 25 30

Val Val His Val Val Asp Lys His Ile Leu Val Phe Asp Pro Lys Gln
35 40 45

Glu Glu Val Ser Phe Phe His Gly Lys Lys Thr Thr Asn Gln Asn Val
50 55 60

Ile Lys Lys Gln Asn Lys Asp Leu Lys Phe Val Phe Asp Ala Val Phe
65 70 75 80

Asp Glu Thr Ser Thr Gln Ser Glu Val Phe Glu His Thr Thr Lys Pro
85 90 95

Ile Leu Arg Ser Phe Leu Asn Gly Tyr Asn Cys Thr Val Leu Ala Tyr
100 105 110

Gly Ala Thr Gly Ala Gly Lys Thr His Thr Met Leu Gly Ser Ala Asp
115 120 125

Glu Pro Gly Val Met Tyr Leu Thr Met Leu His Leu Tyr Lys Cys Met
130 135 140

Asp Glu Ile Lys Glu Glu Lys Ile Cys Ser Thr Ala Val Ser Tyr Leu
145 150 155 160

Glu Val Tyr Asn Glu Gln Ile Arg Asp Leu Leu Val Asn Ser Gly Pro
165 170 175

Leu Ala Val Arg Glu Asp Thr Gln Lys Gly Val Val His Gly Leu
180 185 190

Thr Leu His Gln Pro Lys Ser Ser Glu Glu Ile Leu His Leu Leu Asp
195 200 205

Asn Gly Asn Lys Asn Arg Thr Gln His Pro Thr Asp Met Asn Ala Thr
210 215 220

Ser Ser Arg Ser His Ala Val Phe Gln Ile Tyr Leu Arg Gln Gln Asp
225 230 235 240

Lys Thr Ala Ser Ile Asn Gln Asn Val Arg Ile Ala Lys Met Ser Leu
245 250 255

Ile Asp Leu Ala Gly Ser Glu Arg Ala Ser Thr Ser Gly Ala Lys Gly
260 265 270

Thr Arg Phe Val Glu Gly Thr Asn Ile Asn Arg Ser Leu Leu Ala Leu
275 280 285

Gly Asn Val Ile Asn Ala Leu Ala Asp Ser Lys Arg Lys Asn Gln His
290 295 300

Ile Pro Tyr Arg Asn Ser Lys Leu Thr Arg Leu Leu Lys Asp Ser Leu
305 310 315 320

Gly Gly Asn Cys Gln Thr Ile Met Ile Ala Ala Val Ser Pro Ser Ser
325 330 335

Val Phe Tyr Asp Asp Thr Tyr Asn Thr Leu Lys Tyr Ala Asn Arg Ala
340 345 350

Lys Asp Ile Lys Ser Ser Leu Lys Ser Asn Val Leu Asn Val Asn Asn
355 360 365

His Ile Thr Gln Tyr Val Lys Ile Cys Asn Glu Gln Lys Ala Glu Ile
370 375 380

Leu Leu Leu Lys Glu Lys Leu Lys Ala Tyr Glu Glu Gln Lys Ala Phe
385 390 395 400

Thr Asn Glu Asn Asp Gln Ala Lys Leu Met Ile Ser Asn Pro Gln Glu
405 410 415

Lys Glu Ile Glu Arg Phe Gln Glu Ile Leu Asn Cys Leu Phe Gln Asn
420 425 430

Arg Glu Glu Ile Arg Gln Glu Tyr Leu Lys Leu Glu Met Leu Leu Lys
435 440 445

Glu Asn Glu Leu Lys Ser Phe Tyr Gln Gln Cys His Lys Gln Ile
450 455 460

Glu Met Met Cys Ser Glu Asp Lys Val Glu Lys Ala Thr Gly Lys Arg
465 470 475 480

Asp His Arg Leu Ala Met Leu Lys Thr Arg Arg Ser Tyr Leu Glu Lys
485 490 495

Arg Arg Glu Glu Glu Leu Lys Gln Phe Asp Glu Asn Thr Asn Trp Leu
500 505 510

His Arg Val Glu Lys Glu Met Gly Leu Leu Ser Gln Asn Gly His Ile
515 520 525

Pro Lys Glu Leu Lys Lys Asp Leu His Cys His His Leu His Leu Gln
530 535 540

Asn Lys Asp Leu Lys Ala Gln Ile Arg His Met Met Asp Leu Ala Cys
545 550 555 560

Leu Gln Glu Gln Gln His Arg Gln Thr Glu Ala Val Leu Asn Ala Leu
565 570 575

Leu Pro Thr Leu Arg Lys Gln Tyr Cys Thr Leu Lys Glu Ala Gly Leu
580 585 590

Ser Asn Ala Ala Phe Glu Ser Asp Phe Lys Glu Ile Glu His Leu Val
595 600 605

Glu Arg Lys Lys Val Val Val Trp Ala Asp Gln Thr Gly Glu Gln Pro
610 615 620

Lys Gln Asn Asp Leu Pro Gly Ile Ser Val Leu Met Thr Phe Ser Gln
625 630 635 640

Leu Gly Pro Val Gln Pro Ile Pro Cys Cys Ser Ser Ser Gly Gly Thr
645 650 655

Asn Leu Val Lys Ile Pro Thr Glu Lys Arg Thr Arg Arg Lys Leu Met
660 665 670

Pro Ser Pro Leu Lys Gly Gln His Thr Leu Lys Ser Pro Pro Ser Gln
675 680 685

Ser Val Gln Leu Asn Asp Ser Leu Ser Lys Glu Leu Gln Pro Ile Val
690 695 700

Tyr Thr Pro Glu Asp Cys Arg Lys Ala Phe Gln Asn Pro Ser Thr Val
705 710 715 720

Thr Leu Met Lys Pro Ser Ser Phe Thr Thr Ser Phe Gln Ala Ile Ser
725 730 735

Ser Asn Ile Asn Ser Asp Asn Cys Leu Lys Met Leu Cys Glu Val Ala
740 745 750

Ile Pro His Asn Arg Arg Lys Glu Cys Gly Gln Glu Asp Leu Asp Ser
755 760 765

Thr Phe Thr Ile Cys Glu Asp Ile Lys Ser Ser Lys Cys Lys Leu Pro
770 775 780

Glu Gln Glu Ser Leu Pro Asn Asp Asn Lys Asp Ile Leu Gln Arg Leu
785 790 795 800

Asp Pro Ser Ser Phe Ser Thr Lys His Ser Met Pro Val Pro Ser Met
805 810 815

Val Pro Ser Tyr Met Ala Met Thr Thr Ala Ala Lys Arg Lys Arg Lys
820 825 830

Leu Thr Ser Ser Thr Ser Asn Ser Ser Leu Thr Ala Asp Val Asn Ser
835 840 845

Gly Phe Ala Lys Arg Val Arg Gln Asp Asn Ser Ser Glu Lys His Leu
850 855 860

Gln Glu Asn Lys Pro Thr Met Glu His Lys Arg Asn Ile Cys Lys Ile
865 870 875 880

Asn Pro Ser Met Val Arg Lys Phe Gly Arg Asn Ile Ser Lys Gly Asn
885 890 895

Leu Arg

<210> 260
<211> 71

<212> PRT

<213> Homo sapiens

<400> 260

Met Ser Lys Asp Arg Ala Asn Met Gln His Arg Tyr Ile Glu Leu Phe
1 5 10 15

Leu Asn Ser Thr Thr Gly Ala Ser Asn Gly Ala Tyr Ser Ser Gln Val
20 25 30

Met Gln Gly Met Gly Val Ser Ala Ala Gln Ala Thr Tyr Ser Gly Leu
35 40 45

Glu Ser Gln Ser Val Ser Gly Cys Tyr Gly Ala Gly Tyr Ser Gly Gln
50 55 60

Asn Ser Met Gly Gly Tyr Asp
65 70

<210> 261

<211> 592

<212> PRT

<213> Homo sapiens

<400> 261

Met Ala Pro Gly Gln Leu Ala Leu Phe Ser Val Ser Asp Lys Thr Gly
1 5 10 15

Leu Val Glu Phe Ala Arg Asn Leu Thr Ala Leu Gly Leu Asn Leu Val
20 25 30

Ala Ser Gly Gly Thr Ala Lys Ala Leu Arg Asp Ala Gly Leu Ala Val
35 40 45

Arg Asp Val Ser Glu Leu Thr Gly Phe Pro Glu Met Leu Gly Gly Arg
50 55 60

Val Lys Thr Leu His Pro Ala Val His Ala Gly Ile Leu Ala Arg Asn
65 70 75 80

Ile Pro Glu Asp Asn Ala Asp Met Ala Arg Leu Asp Phe Asn Leu Ile
85 90 95

Arg Val Val Ala Cys Asn Leu Tyr Pro Phe Val Lys Thr Val Ala Ser
100 105 110

Pro Gly Val Thr Val Glu Glu Ala Val Glu Gln Ile Asp Ile Gly Gly
115 120 125

Val Thr Leu Leu Arg Ala Ala Lys Asn His Ala Arg Val Thr Val
130 135 140

Val Cys Glu Pro Glu Asp Tyr Val Val Ser Thr Glu Met Gln Ser
145 150 155 160

Ser Glu Ser Lys Asp Thr Ser Leu Glu Thr Arg Arg Gln Leu Ala Leu
165 170 175

Lys Ala Phe Thr His Thr Ala Gln Tyr Asp Glu Ala Ile Ser Asp Tyr
180 185 190

Phe Arg Lys Gln Tyr Ser Lys Gly Val Ser Gln Met Pro Leu Arg Tyr
195 200 205

Gly Met Asn Pro His Gln Thr Pro Ala Gln Leu Tyr Thr Leu Gln Pro
210 215 220

Lys Leu Pro Ile Thr Val Leu Asn Gly Ala Pro Gly Phe Ile Asn Leu
225 230 235 240

Cys Asp Ala Leu Asn Ala Trp Gln Leu Val Lys Glu Leu Lys Glu Ala
245 250 255

Leu Gly Ile Pro Ala Ala Ser Phe Lys His Val Ser Pro Ala Gly
260 265 270

Ala Ala Val Gly Ile Pro Leu Ser Glu Asp Glu Ala Lys Val Cys Met
275 280 285

Val Tyr Asp Leu Tyr Lys Thr Leu Thr Pro Ile Ser Ala Ala Tyr Ala
290 295 300

Arg Ala Arg Gly Ala Asp Arg Met Ser Ser Phe Gly Asp Phe Val Ala
305 310 315 320

Leu Ser Asp Val Cys Asp Val Pro Thr Ala Lys Ile Ile Ser Arg Glu
325 330 335

Val Ser Asp Gly Ile Ile Ala Pro Gly Tyr Glu Glu Ala Leu Thr
340 345 350

Ile Leu Ser Lys Lys Asn Gly Asn Tyr Cys Val Leu Gln Met Asp
355 360 365

Gln Ser Tyr Lys Pro Asp Glu Asn Glu Val Arg Thr Leu Phe Gly Leu
370 375 380

His Leu Ser Gln Lys Arg Asn Asn Gly Val Val Asp Lys Ser Leu Phe
385 390 395 400

Ser Asn Val Val Thr Lys Asn Lys Asp Leu Pro Glu Ser Ala Leu Arg
405 410 415

Asp Leu Ile Val Ala Thr Ile Ala Val Lys Tyr Thr Gln Ser Asn Ser
420 425 430

Val Cys Tyr Ala Lys Asn Gly Gln Val Ile Gly Ile Gly Ala Gly Gln
435 440 445

Gln Ser Arg Ile His Cys Thr Arg Leu Ala Gly Asp Lys Ala Asn Tyr
450 455 460

Trp Trp Leu Arg His His Pro Gln Val Leu Ser Met Lys Phe Lys Thr
465 470 475 480

Gly Val Lys Arg Ala Glu Ile Ser Asn Ala Ile Asp Gln Tyr Val Thr
485 490 495

Gly Thr Ile Gly Glu Asp Glu Asp Leu Ile Lys Trp Lys Ala Leu Phe
500 505 510

Glu Glu Val Pro Glu Leu Leu Thr Glu Ala Glu Lys Lys Glu Trp Val
515 520 525

Glu Lys Leu Thr Glu Val Ser Ile Ser Ser Asp Ala Phe Phe Pro Phe
530 535 540

Arg Asp Asn Val Asp Arg Ala Lys Arg Ser Gly Val Ala Tyr Ile Ala
545 550 555 560

Ala Pro Ser Gly Ser Ala Ala Asp Lys Val Val Ile Glu Ala Cys Asp
565 570 575

Glu Leu Gly Ile Ile Leu Ala His Thr Asn Leu Arg Leu Phe His His
580 585 590

<210> 262
<211> 62
<212> PRT
<213> Homo sapiens

<400> 262

Met Phe Glu Leu Leu Pro Asn Cys Met Leu Phe Ile Leu Asn Ser Pro
1 5 10 15

Ser Asp Arg Ile Pro Arg Pro Arg Glu Val Lys Lys Thr Ser Pro Arg
20 25 30

Ser Ile Thr Leu Leu Leu Thr Ala Pro Asn Leu Leu Asp Ser Lys Ser
35 40 45

Asn Gly Phe Pro Gly Thr Met Met Leu Val Asp Leu Lys Lys
50 55 60

<210> 263

<211> 43

<212> PRT

<213> Homo sapiens

<400> 263

Met Thr Ala Leu Phe Pro Gly Leu Ala Pro Glu Thr Glu Gln Pro Asp
1 5 10 15

Ile His Thr Pro Arg Arg Gln Leu Glu Val Pro Pro Gly Asn Gln Asn
20 25 30

His Pro Gln Arg Arg Pro Pro Asp Thr Asp Ile
35 40

<210> 264

<211> 303

<212> PRT

<213> Homo sapiens

<400> 264

Met Lys Pro Thr Gly Thr Asp Pro Arg Ile Leu Ser Ile Ala Ala Glu

1	5	10	15												
Val	Ala	Lys	Ser	Pro	Glu	Gln	Asn	Val	Pro	Val	Ile	Leu	Leu	Lys	Leu
		20			25							30			
Lys	Glu	Ile	Ile	Asn	Ile	Thr	Pro	Leu	Gly	Ser	Ser	Glu	Leu	Lys	Lys
		35			40						45				
Ile	Lys	Gln	Asp	Ile	Tyr	Cys	Tyr	Asp	Leu	Ile	Gln	Tyr	Cys	Leu	Leu
		50			55					60					
Val	Leu	Ser	Gln	Asp	Tyr	Ser	Arg	Ile	Gln	Gly	Gly	Trp	Thr	Thr	Ile
		65			70				75				80		
Ser	Gln	Leu	Thr	Gln	Ile	Leu	Ser	His	Cys	Cys	Val	Gly	Leu	Glu	Pro
		85						90					95		
Gly	Glu	Asp	Ala	Glu	Glu	Phe	Tyr	Asn	Glu	Leu	Leu	Pro	Ser	Ala	Ala
		100				105						110			
Glu	Asn	Phe	Leu	Val	Leu	Gly	Arg	Gln	Leu	Gln	Thr	Cys	Phe	Ile	Asn
		115			120					125					
Ala	Ala	Lys	Ala	Glu	Glu	Lys	Asp	Glu	Leu	Leu	His	Phe	Phe	Gln	Ile
		130			135					140					
Val	Thr	Asp	Ser	Leu	Phe	Trp	Leu	Leu	Gly	Gly	His	Val	Glu	Leu	Ile
		145			150				155				160		
Gln	Asn	Val	Leu	Gln	Ser	Asp	His	Phe	Leu	His	Leu	Leu	Gln	Ala	Asp
		165			170						175				
Asn	Val	Gln	Ile	Gly	Ser	Ala	Val	Met	Met	Met	Leu	Gln	Asn	Ile	Leu
		180			185						190				

Gln Ile Asn Ser Gly Asp Leu Leu Arg Ile Gly Arg Lys Ala Leu Tyr
195 200 205

Ser Ile Leu Asp Glu Val Ile Phe Lys Leu Phe Ser Thr Pro Ser Pro
210 215 220

Val Ile Arg Ser Thr Ala Thr Lys Leu Leu Leu Met Ala Glu Ser
225 230 235 240

His Gln Glu Ile Leu Ile Leu Leu Arg Gln Ser Thr Cys Tyr Lys Gly
245 250 255

Leu Arg Arg Leu Leu Ser Lys Gln Glu Thr Gly Thr Glu Phe Ser Gln
260 265 270

Glu Leu Arg Gln Leu Val Gly Leu Leu Ser Pro Met Val Tyr Gln Glu
275 280 285

Val Glu Glu Gln Ile Gln Thr Ile Lys Asp Val Ala Gly Asp Lys
290 295 300

<210> 265
<211> 264
<212> PRT
<213> Homo sapiens

<400> 265

Met Leu Leu Glu Ile Asn Arg Gln Lys Glu Glu Glu Asp Leu Lys Leu
1 5 10 15

Gln Leu Gln Leu Gln Arg Gln Arg Ala Met Arg Leu Ser Arg Glu Leu
20 25 30

Gln Leu Ser Met Leu Glu Ile Val His Pro Gly Gln Val Glu Lys His
35 40 45

Tyr Arg Glu Met Glu Glu Lys Ser Ala Leu Ile Ile Gln Lys His Trp
50 55 60

Arg Gly Tyr Arg Glu Arg Lys Asn Phe His Gln Gln Arg Gln Ser Leu
65 70 75 80

Ile Glu Tyr Lys Ala Ala Val Thr Leu Gln Arg Ala Ala Leu Lys Phe
85 90 95

Leu Ala Lys Tyr Arg Lys Lys Lys Leu Phe Ala Pro Trp Arg Gly
100 105 110

Leu Gln Glu Leu Thr Asp Ala Arg Arg Val Glu Leu Lys Lys Arg Val
115 120 125

Asp Asp Tyr Val Arg Arg His Leu Gly Ser Pro Met Ser Asp Val Val
130 135 140

Ser Arg Glu Leu His Ala Gln Ala Gln Glu Arg Leu Gln His Tyr Phe
145 150 155 160

Met Gly Arg Ala Leu Glu Glu Arg Ala Gln Gln His Arg Glu Ala Leu
165 170 175

Ile Ala Gln Ile Ser Thr Asn Val Glu Gln Leu Met Lys Ala Pro Ser
180 185 190

Leu Lys Glu Ala Glu Gly Lys Glu Pro Glu Leu Phe Leu Ser Arg Ser
195 200 205

Arg Pro Val Ala Ala Lys Ala Lys Gln Ala His Leu Thr Thr Leu Lys
210 215 220

His Ile Gln Ala Pro Trp Trp Lys Lys Leu Gly Glu Glu Ser Gly Asp
225 230 235 240

Glu Ile Asp Val Pro Lys Asp Glu Leu Ser Ile Glu Leu Glu Asn Leu
245 250 255

Phe Ile Gly Gly Thr Lys Pro Pro
260

<210> 266
<211> 248
<212> PRT
<213> Homo sapiens

<400> 266

Met Ser Gly Gly Val Ile Arg Gly Pro Ala Gly Asn Asn Asp Cys
1 5 10 15

Arg Ile Tyr Val Gly Asn Leu Pro Pro Asp Ile Arg Thr Lys Asp Ile
20 25 30

Glu Asp Val Phe Tyr Lys Tyr Gly Ala Ile Arg Asp Ile Asp Leu Lys
35 40 45

Asn Arg Arg Gly Gly Pro Pro Phe Ala Phe Val Glu Phe Glu Asp Pro
50 55 60

Arg Asp Ala Glu Asp Ala Val Tyr Gly Arg Asp Gly Tyr Asp Tyr Asp
65 70 75 80

Gly Tyr Arg Leu Arg Val Glu Phe Pro Arg Ser Gly Arg Gly Thr Gly
85 90 95

Arg Gly Gly Gly Gly Gly Gly Gly Ala Pro Arg Gly Arg Tyr
100 105 110

Gly Pro Pro Ser Arg Arg Ser Glu Asn Arg Val Val Val Ser Gly Leu
115 120 125

Pro Pro Ser Gly Ser Trp Gln Asp Leu Lys Asp His Met Arg Glu Ala
130 135 140

Gly Asp Val Cys Tyr Ala Asp Val Tyr Arg Asp Gly Thr Gly Val Val
145 150 155 160

Glu Phe Val Arg Lys Glu Asp Met Thr Tyr Ala Val Arg Lys Leu Asp
165 170 175

Asn Thr Lys Phe Arg Ser His Glu Gly Glu Thr Ala Tyr Ile Arg Val
180 185 190

Lys Val Asp Gly Pro Arg Ser Pro Ser Tyr Gly Arg Ser Arg Ser Arg
195 200 205

Ser Arg Ser Arg Ser Arg Ser Arg Ser Asn Ser Arg Ser Arg
210 215 220

Ser Tyr Ser Pro Arg Arg Ser Arg Gly Ser Pro Arg Tyr Ser Pro Arg
225 230 235 240

His Ser Arg Ser Arg Ser Arg Thr
245

<210> 267
<211> 313
<212> PRT
<213> Homo sapiens

<400> 267

Met Pro Val Ala Gly Ser Glu Leu Pro Arg Arg Pro Leu Pro Pro Ala
1 5 10 15

Ala Gln Glu Arg Asp Ala Glu Pro Arg Pro Pro His Gly Glu Leu Gln
20 25 30

Tyr Leu Gly Gln Ile Gln His Ile Leu Arg Cys Gly Val Arg Lys Asp
35 40 45

Asp Arg Thr Gly Thr Gly Thr Leu Ser Val Phe Gly Met Gln Ala Arg
50 55 60

Tyr Ser Leu Arg Asp Glu Phe Pro Leu Leu Thr Thr Lys Arg Val Phe
65 70 75 80

Trp Lys Gly Val Leu Glu Glu Leu Leu Trp Phe Ile Lys Gly Ser Thr
85 90 95

Asn Ala Lys Glu Leu Ser Ser Lys Gly Val Lys Ile Trp Asp Ala Asn
100 105 110

Gly Ser Arg Asp Phe Leu Asp Ser Leu Gly Phe Ser Thr Arg Glu Glu
115 120 125

Gly Asp Leu Gly Pro Val Tyr Gly Phe Gln Trp Arg His Phe Gly Ala
130 135 140

Glu Tyr Arg Asp Met Glu Ser Asp Tyr Ser Gly Gln Gly Val Asp Gln
145 150 155 160

Leu Gln Arg Val Ile Asp Thr Ile Lys Thr Asn Pro Asp Asp Arg Arg
165 170 175

Ile Ile Met Cys Ala Trp Asn Pro Arg Asp Leu Pro Leu Met Ala Leu
180 185 190

Pro Pro Cys His Ala Leu Cys Gln Phe Tyr Val Val Asn Ser Glu Leu
195 200 205

Ser Cys Gln Leu Tyr Gln Arg Ser Gly Asp Met Gly Leu Gly Val Pro
210 215 220

Phe Asn Ile Ala Ser Tyr Ala Leu Leu Thr Tyr Met Ile Ala His Ile
225 230 235 240

Thr Gly Leu Lys Pro Gly Asp Phe Ile His Thr Leu Gly Asp Ala His
245 250 255

Ile Tyr Leu Asn His Ile Glu Pro Leu Lys Ile Gln Leu Gln Arg Glu
260 265 270

Pro Arg Pro Phe Pro Lys Leu Arg Ile Leu Arg Lys Val Glu Lys Ile
275 280 285

Asp Asp Phe Lys Ala Glu Asp Phe Gln Ile Glu Gly Tyr Asn Pro His
290 295 300

Pro Thr Ile Lys Met Glu Met Ala Val
305 310

<210> 268

<211> 511

<212> PRT

<213> Homo sapiens

<400> 268

Met Ala Val Arg Leu Ala Gly Gly Leu Gln Lys Met Val Ala Leu Leu
1 5 10 15

Asn Lys Thr Asn Val Lys Phe Leu Ala Ile Thr Thr Asp Cys Leu Gln
20 25 30

Ile Leu Ala Tyr Gly Asn Gln Glu Ser Lys Leu Ile Ile Leu Ala Ser
35 40 45

Gly Gly Pro Gln Ala Leu Val Asn Ile Met Arg Thr Tyr Thr Tyr Glu
50 55 60

Lys Leu Leu Trp Thr Thr Ser Arg Val Leu Lys Val Leu Ser Val Cys
65 70 75 80

Ser Ser Asn Lys Pro Ala Ile Val Glu Ala Gly Gly Met Gln Ala Leu
85 90 95

Gly Leu His Leu Thr Asp Pro Ser Gln Arg Leu Val Gln Asn Cys Leu
100 105 110

Trp Thr Leu Arg Asn Leu Ser Asp Ala Ala Thr Lys Gln Glu Gly Met
115 120 125

Glu Gly Leu Leu Gly Thr Leu Val Gln Leu Leu Gly Ser Asp Asp' Ile
130 135 140

Asn Val Val Thr Cys Ala Ala Gly Ile Leu Ser Asn Leu Thr Cys Asn
145 150 155 160

Asn Tyr Lys Asn Lys Met Met Val Cys Gln Val Gly Gly Ile Glu Ala
165 170 175

Leu Val Arg Thr Val Leu Arg Ala Gly Asp Arg Glu Asp Ile Thr Glu
180 185 190

Pro Ala Ile Cys Ala Leu Arg His Leu Thr Ser Arg His Gln Glu Ala
195 200 205

Glu Met Ala Gln Asn Ala Val Arg Leu His Tyr Gly Leu Pro Val Val

210

215

220

Val Lys Leu Leu His Pro Pro Ser His Trp Pro Leu Ile Lys Ala Thr
225 230 235 240

Val Gly Leu Ile Arg Asn Leu Ala Leu Cys Pro Ala Asn His Ala Pro
245 250 255

Leu Arg Glu Gln Gly Ala Ile Pro Arg Leu Val Gln Leu Leu Val Arg
260 265 270

Ala His Gln Asp Thr Gln Arg Arg Thr Ser Met Gly Gly Thr Gln Gln
275 280 285

Gln Phe Val Glu Gly Val Arg Met Glu Glu Ile Val Glu Gly Cys Thr
290 295 300

Gly Ala Leu His Ile Leu Ala Arg Asp Val His Asn Arg Ile Val Ile
305 310 315 320

Arg Gly Leu Asn Thr Ile Pro Leu Phe Val Gln Leu Leu Tyr Ser Pro
325 330 335

Ile Glu Asn Ile Gln Arg Val Ala Ala Gly Val Leu Cys Glu Leu Ala
340 345 350

Gln Asp Lys Glu Ala Ala Glu Ala Ile Glu Ala Glu Gly Ala Thr Ala
355 360 365

Pro Leu Thr Glu Leu Leu His Ser Arg Asn Glu Gly Val Ala Thr Tyr
370 375 380

Ala Ala Ala Val Leu Phe Arg Met Ser Glu Asp Lys Pro Gln Asp Tyr
385 390 395 400

Lys Lys Arg Leu Ser Val Glu Leu Thr Ser Ser Leu Phe Arg Thr Glu
405 410 415

Pro Met Ala Trp Asn Glu Thr Ala Asp Leu Gly Leu Asp Ile Gly Ala
420 425 430

Gln Gly Glu Pro Leu Gly Tyr Arg Gln Asp Asp Pro Ser Tyr Arg Ser
435 440 445

Phe His Ser Gly Gly Tyr Gly Gln Asp Ala Leu Gly Met Asp Pro Met
450 455 460

Met Glu His Glu Met Gly Gly His His Pro Gly Ala Asp Tyr Pro Val
465 470 475 480

Asp Gly Leu Pro Asp Leu Gly His Ala Gln Asp Leu Met Asp Gly Leu
485 490 495

Pro Pro Gly Asp Ser Asn Gln Leu Ala Trp Phe Asp Thr Asp Leu
500 505 510

<210> 269

<211> 128

<212> PRT

<213> Homo sapiens

<400> 269

Met Phe Asp Val Thr Ser Arg Val Thr Tyr Lys Asn Val Pro Asn Trp
1 5 10 15

His Arg Asp Leu Val Arg Val Cys Glu Asn Ile Pro Ile Val Leu Cys
20 25 30

Gly Asn Lys Val Asp Ile Lys Asp Arg Lys Val Lys Ala Lys Ser Ile
35 40 45

Val Phe His Arg Lys Lys Asn Leu Gln Tyr Tyr Asp Ile Ser Ala Lys
50 55 60

Ser Asn Tyr Asn Phe Glu Lys Pro Phe Leu Trp Leu Ala Arg Lys Leu
65 70 75 80

Ile Gly Asp Pro Asn Leu Glu Phe Val Ala Met Pro Ala Leu Ala Pro
85 90 95

Pro Glu Val Val Met Asp Pro Ala Leu Ala Ala Gln Tyr Glu His Asp
100 105 110

Leu Glu Val Ala Gln Thr Thr Ala Leu Pro Asp Glu Asp Asp Asp Leu
115 120 125

<210> 270
<211> 506
<212> PRT
<213> Homo sapiens

<400> 270

Met Glu Asp His Gln His Val Pro Ile Asp Ile Gln Thr Ser Lys Leu
1 5 10 15

Leu Asp Trp Leu Val Asp Arg Arg His Cys Ser Leu Lys Trp Gln Ser
20 25 30

Leu Val Leu Thr Ile Arg Glu Lys Ile Asn Ala Ala Ile Gln Asp Met
35 40 45

Pro Glu Ser Glu Glu Ile Ala Gln Leu Leu Ser Gly Ser Tyr Ile His
50 55 60

Tyr Phe His Cys Leu Arg Ile Leu Asp Leu Leu Lys Gly Thr Glu Ala

65	70	75	80
Ser Thr Lys Asn Ile Phe Gly Arg Tyr Ser Ser Gln Arg Met Lys Asp			
85	90	95	
Trp Gln Glu Ile Ile Ala Leu Tyr Glu Lys Asp Asn Thr Tyr Leu Val			
100	105	110	
Glu Leu Ser Ser Leu Leu Val Arg Asn Val Asn Tyr Glu Ile Pro Ser			
115	120	125	
Leu Lys Lys Gln Ile Ala Lys Cys Gln Gln Leu Gln Gln Glu Tyr Ser			
130	135	140	
Arg Lys Glu Glu Glu Cys Gln Ala Gly Ala Ala Glu Met Arg Glu Gln			
145	150	155	160
Phe Tyr His Ser Cys Lys Gln Tyr Gly Ile Thr Gly Glu Asn Val Arg			
165	170	175	
Gly Glu Leu Leu Ala Leu Val Lys Asp Leu Pro Ser Gln Leu Ala Glu			
180	185	190	
Ile Gly Ala Ala Ala Gln Gln Ser Leu Gly Glu Ala Ile Asp Val Tyr			
195	200	205	
Gln Ala Ser Val Gly Phe Val Cys Glu Ser Pro Thr Glu Gln Val Leu			
210	215	220	
Pro Met Leu Arg Phe Val Gln Lys Arg Gly Asn Ser Thr Val Tyr Glu			
225	230	235	240
Trp Arg Thr Gly Thr Glu Pro Ser Val Val Glu Arg Pro His Leu Glu			
245	250	255	

Glu Leu Pro Glu Gln Val Ala Glu Asp Ala Ile Asp Trp Gly Asp Phe
260 265 270

Gly Val Glu Ala Val Ser Glu Gly Thr Asp Ser Gly Ile Ser Ala Glu
275 280 285

Ala Ala Gly Ile Asp Trp Gly Ile Phe Pro Glu Ser Asp Ser Lys Asp
290 295 300

Pro Gly Gly Asp Gly Ile Asp Trp Gly Asp Asp Ala Val Ala Leu Gln
305 310 315 320

Ile Thr Val Leu Glu Ala Gly Thr Gln Ala Pro Glu Gly Val Ala Arg
325 330 335

Gly Pro Asp Ala Leu Thr Leu Leu Glu Tyr Thr Glu Thr Arg Asn Gln
340 345 350

Phe Leu Asp Glu Leu Met Glu Leu Glu Ile Phe Leu Ala Gln Arg Ala
355 360 365

Val Glu Leu Ser Glu Glu Ala Asp Val Leu Ser Val Ser Gln Phe Gln
370 375 380

Leu Ala Pro Ala Ile Leu Gln Gly Gln Thr Lys Glu Lys Met Val Thr
385 390 395 400

Met Val Ser Val Leu Glu Asp Leu Ile Gly Lys Leu Thr Ser Leu Gln
405 410 415

Leu Gln His Leu Phe Met Ile Leu Ala Ser Pro Arg Tyr Val Asp Arg
420 425 430

Val Thr Glu Phe Leu Gln Gln Lys Leu Lys Gln Ser Gln Leu Leu Ala

435

440

445

Leu Lys Lys Glu Leu Met Val Gln Lys Gln Gln Glu Ala Leu Glu Glu
450 455 460

Gln Ala Ala Leu Glu Pro Lys Leu Asp Leu Leu Leu Glu Lys Thr Lys
465 470 475 480

Glu Leu Gln Lys Leu Ile Glu Ala Asp Ile Ser Lys Arg Tyr Ser Gly
485 490 495

Arg Pro Val Asn Leu Met Gly Thr Ser Leu
500 505

<210> 271

<211> 136

<212> PRT

<213> Homo sapiens

<400> 271

Met Thr Ser Leu Cys Met Ala Met Thr Glu Glu Gln His Lys Ser Val
1 5 10 15

Val Ile Asp Cys Ser Ser Gln Pro Gln Phe Cys Asn Ala Gly Ser
20 25 30

Asn Arg Phe Cys Glu Asp Trp Met Gln Ala Phe Leu Asn Gly Ala Lys
35 40 45

Gly Gly Asn Pro Phe Leu Phe Arg Gln Val Leu Glu Asn Phe Lys Leu
50 55 60

Lys Ala Ile Gln Asp Thr Asn Asn Leu Lys Arg Phe Ile Arg Gln Ala
65 70 75 80

Glu Met Asn His Tyr Ala Leu Phe Lys Cys Tyr Met Phe Leu Lys Asn
85 90 95

Cys Gly Ser Gly Asp Ile Leu Leu Lys Ile Val Lys Val Glu His Glu
100 105 110

Glu Met Pro Glu Ala Lys Asn Val Ile Ala Val Leu Glu Glu Phe Met
115 120 125

Lys Glu Ala Leu Asp Gln Ser Phe
130 135

<210> 272
<211> 509
<212> PRT
<213> Homo sapiens

<400> 272

Met Phe Thr Asn Asp Met Met Glu Cys Lys Gln Asp Glu Ile Val Met
1 5 10 15

Gln Gly Met Asp Pro Ser Ala Leu Glu Ala Leu Ile Asn Phe Ala Tyr
20 25 30

Asn Gly Asn Leu Ala Ile Asp Gln Gln Asn Val Gln Ser Leu Leu Met
35 40 45

Gly Ala Ser Phe Leu Gln Leu Gln Ser Ile Lys Asp Ala Cys Cys Thr
50 55 60

Phe Leu Arg Glu Arg Leu His Pro Lys Asn Cys Leu Gly Val Arg Gln
65 70 75 80

Phe Ala Glu Thr Met Met Cys Ala Val Leu Tyr Asp Ala Ala Asn Ser
85 90 95

Phe Ile His Gln His Phe Val Glu Val Ser Met Ser Glu Glu Phe Leu
100 105 110

Ala Leu Pro Leu Glu Asp Val Leu Glu Leu Val Ser Arg Asp Glu Leu
115 120 125

Asn Val Lys Ser Glu Glu Gln Val Phe Glu Ala Ala Leu Ala Trp Val
130 135 140

Arg Tyr Asp Arg Glu Gln Arg Gly Pro Tyr Leu Pro Glu Leu Leu Ser
145 150 155 160

Asn Ile Arg Leu Pro Leu Cys Arg Pro Gln Phe Leu Ser Asp Arg Val
165 170 175

Gln Gln Asp Asp Leu Val Arg Cys Cys His Lys Cys Arg Asp Leu Val
180 185 190

Asp Glu Ala Lys Asp Tyr His Leu Met Pro Glu Arg Arg Pro His Leu
195 200 205

Pro Ala Phe Arg Thr Arg Pro Arg Cys Cys Thr Ser Ile Ala Gly Leu
210 215 220

Ile Tyr Ala Val Gly Gly Leu Asn Ser Ala Gly Asp Ser Leu Asn Val
225 230 235 240

Val Glu Val Phe Asp Pro Ile Ala Asn Cys Trp Glu Arg Cys Arg Pro
245 250 255

Met Thr Thr Ala Arg Ser Arg Val Gly Val Ala Val Val Asn Gly Leu
260 265 270

Leu Tyr Ala Ile Gly Gly Tyr Asp Gly Gln Leu Arg Leu Ser Thr Val

275

280

285

Glu Ala Tyr Asn Pro Glu Thr Asp Thr Trp Thr Arg Val Gly Ser Met
290 295 300

Asn Ser Lys Arg Ser Ala Met Gly Thr Val Val Leu Asp Gly Gln Ile
305 310 315 320

Tyr Val Cys Gly Gly Tyr Asp Gly Asn Ser Ser Leu Ser Ser Val Glu
325 330 335

Thr Tyr Ser Pro Glu Thr Asp Lys Trp Thr Val Val Thr Ser Met Ser
340 345 350

Ser Asn Arg Ser Ala Ala Gly Val Thr Val Phe Glu Gly Arg Ile Tyr
355 360 365

Val Ser Gly Gly His Asp Gly Leu Gln Ile Phe Ser Ser Val Glu His
370 375 380

Tyr Asn His His Thr Ala Thr Trp His Pro Ala Ala Gly Met Leu Asn
385 390 395 400

Lys Arg Cys Arg His Gly Ala Ala Ser Leu Gly Ser Lys Met Phe Val
405 410 415

Cys Gly Gly Tyr Asp Gly Ser Gly Phe Leu Ser Ile Ala Glu Met Tyr
420 425 430

Ser Ser Val Ala Asp Gln Trp Cys Leu Ile Val Pro Met His Thr Arg
435 440 445

Arg Ser Arg Val Ser Leu Val Ala Ser Cys Gly Arg Leu Tyr Ala Val
450 455 460

Gly Gly Tyr Asp Gly Gln Ser Asn Leu Ser Ser Val Glu Met Tyr Asp
465 470 475 480

Pro Glu Thr Asp Cys Trp Thr Phe Met Ala Pro Met Ala Cys His Glu
485 490 495

Gly Gly Val Gly Val Gly Cys Ile Pro Leu Leu Thr Ile
500 505

<210> 273
<211> 49
<212> PRT
<213> Homo sapiens

<400> 273

Met Ser Phe Ser Ala Ile Leu Ser Pro Phe Ser Ser Leu Ser Val Asn
1 5 10 15

Val Arg Asn Leu Arg Gln Arg Gly Lys Gly Arg Gln Asn Ser Arg Ile
20 25 30

Leu Thr Leu Ile Val Lys Ile Leu Phe Lys Thr Trp His Leu Ile Phe
35 40 45

Leu

<210> 274
<211> 109
<212> PRT
<213> Homo sapiens

<400> 274

Met Glu Ser His Ser Val Thr Gln Ala Gly Val Gln Trp His Asp Leu
1 5 10 15

Gly Ser Leu His Ser Pro Leu Leu Gly Ser Ser Asp Ser Pro Thr Ser
20 25 30

Ala Ser Arg Val Ala Gly Ile Thr Gly Met Gln His His Thr Gln Leu
35 40 45

Ile Phe Leu Phe Leu Val Glu Met Gly Phe His His Val Gly Gln Ala
50 55 60

Gly Leu Lys Leu Leu Thr Ser Gly Asp Pro Pro Ala Ser Ala Ser Gln
65 70 75 80

Ser Ala Gly Ile Thr Gly Val Gly His His Thr Trp Pro Ile Met Glu
85 90 95

Asp Phe Leu Met Val Met Phe Glu Leu Gly Phe Gly Glu
100 105

<210> 275
<211> 54
<212> PRT
<213> Homo sapiens

<400> 275

Met Glu Ser Asn Ile Ile Tyr Thr Pro Ser Leu Pro Leu Phe Leu Pro
1 5 10 15

Pro Phe Leu Pro Pro Ser Leu Pro Pro Phe Leu Pro Pro Phe Ser Leu
20 25 30

Ser Leu Ser Leu Pro Ala Ser Leu Pro Phe Phe Leu Leu Cys Leu Leu
35 40 45

Pro Cys Asp Trp Gly Lys
50

<210> 276
<211> 66
<212> PRT
<213> Homo sapiens

<400> 276

Met Leu Leu Tyr Arg Leu Ala Gln Leu Gly Leu Tyr Phe Leu Tyr Ser
1 5 10 15

Met Pro Val Glu His Gln Met Leu Asn Thr Ser Thr Cys Cys Asp Phe
20 25 30

Ala Ile Pro Ala His Ile Thr His Leu Ile Ser Phe Val Gly Gly His
35 40 45

Val Gly Trp Pro Thr His Trp Gln Val Asn Ser Leu Ile Trp Thr Met
50 55 60

Ser His
65

<210> 277
<211> 180
<212> PRT
<213> Homo sapiens

<400> 277

Met Arg Pro Leu Thr Glu Glu Glu Thr Arg Val Met Phe Glu Lys Ile
1 5 10 15

Ala Lys Tyr Ile Gly Glu Asn Leu Gln Leu Leu Val Asp Arg Pro Asp
20 25 30

Gly Thr Tyr Cys Phe Arg Leu His Asn Asp Arg Val Tyr Tyr Val Ser
35 40 45

Glu Lys Ile Met Lys Leu Ala Ala Asn Ile Ser Gly Asp Lys Leu Val
50 55 60

Ser Leu Gly Thr Cys Phe Gly Lys Phe Thr Lys Thr His Lys Phe Arg
65 70 75 80

Leu His Val Thr Ala Leu Asp Tyr Leu Ala Pro Tyr Ala Lys Tyr Lys
85 90 95

Val Trp Ile Lys Pro Gly Ala Glu Gln Ser Phe Leu Tyr Gly Asn His
100 105 110

Val Leu Lys Ser Gly Leu Gly Arg Ile Thr Glu Asn Thr Ser Gln Tyr
115 120 125

Gln Gly Val Val Val Tyr Ser Met Ala Asp Ile Pro Leu Gly Phe Gly
130 135 140

Val Ala Ala Lys Ser Thr Gln Asp Cys Arg Lys Val Asp Pro Met Ala
145 150 155 160

Ile Val Val Phe His Gln Ala Asp Ile Gly Glu Tyr Val Arg His Glu
165 170 175

Glu Thr Leu Thr
180

<210> 278

<211> 34

<212> PRT

<213> Homo sapiens

<400> 278

Met Gly Leu Glu Arg Gly Phe Asp Pro Arg Ser Leu Cys Ala Phe Ala

1

5

10

15

Ala Glu Pro His Asn Leu Ser Phe Gln Lys His Phe Gln Asn Ala Asn
20 25 30

Ile Phe

<210> 279

<211> 168

<212> PRT

<213> Homo sapiens

<400> 279

Met Leu Arg Val Asn Phe Phe Phe Phe Phe Phe Phe Ser Phe
1 5 10 15

Ser Leu Arg Leu Gly Leu Ala Leu Leu Pro Arg Leu Glu Trp Ser Gly
20 25 30

Val Ile Leu Ala Tyr Cys Ser Leu Cys Leu Pro Gly Ser Ser Ser Pro
35 40 45

Ala Ser Ala Ser Gly Val Ala Gly Thr Thr Gly Ser Cys His His Gly
50 55 60

Gln Pro Thr Phe Ala Cys Phe Val Lys Met Gly Ser His Ser Val Ala
65 70 75 80

Gln Ala Gly Leu Lys Leu Leu Gly Ser Gly Asp Pro Pro Val Ser Ala
85 90 95

Ser Gln Ser Ala Gly Ile Thr Ile Val Ser His His Val Gln Leu Glu
100 105 110

Gly Ser Thr Ser Phe Thr Phe Cys Lys His Ile Cys Ile Phe Thr Pro
115 120 125

Pro Phe Pro Ser Phe Ser Leu Phe Ile Ser His Phe Tyr Ile Asp Leu
130 135 140

Leu Phe Tyr Asn Lys Thr Leu Leu Pro Lys Lys Lys Lys Lys Lys Lys
145 150 155 160

Lys Lys Lys Lys Lys Lys Lys Lys
165

<210> 280
<211> 158
<212> PRT
<213> Homo sapiens

<400> 280

Met Met Ile Trp Ile His Gln Asp Leu Phe Tyr Ala Gln Gly Gln Phe
1 5 10 15

Leu Phe Phe Phe Phe Phe Phe Phe Phe Phe Glu Thr Gly Ser
20 25 30

Arg Phe Val Ala Gln Ala Gly Val Glu Trp Arg Asp Leu Gly Leu Leu
35 40 45

Gln Pro Leu Pro Pro Arg Leu Glu Gln Ser Cys Leu Ser Leu Arg Ser
50 55 60

Ser Trp Asp His Arg Phe Met Pro Pro Trp Pro Ala Asn Phe Cys Met
65 70 75 80

Phe Cys Lys Asp Gly Val Ser Gln Cys Cys Pro Gly Trp Ser Gln Thr
85 90 95

Pro Gly Leu Arg Arg Ser Thr Cys Leu Ser Leu Pro Glu Cys Trp Asp
100 105 110

Tyr Asn Cys Glu Pro Pro Arg Pro Ala Gly Arg Val Asn Ile Phe Tyr
115 120 125

Ile Leu Gln Ala His Leu His Phe His Pro Thr Leu Pro Leu Leu Leu
130 135 140

Pro Phe Tyr Ile Pro Phe Leu Tyr Arg Ser Leu Ile Leu Gln
145 150 155

<210> 281
<211> 43
<212> PRT
<213> Homo sapiens

<400> 281

Met Pro Leu Gly Pro Val Gln Val Tyr Leu Ser Leu Ile Ser Glu Ser
1 5 10 15

Cys Ser Ser Cys Leu Thr Leu Pro His Gly Ser Ser Val His Leu Ser
20 25 30

Ile Thr Val Leu Asn Pro Phe Ser Ile Ser Val
35 40

<210> 282
<211> 61
<212> PRT
<213> Homo sapiens

<400> 282

Met Lys Lys Leu Thr Leu Pro Met Gly Leu Pro Pro Phe Leu Pro Leu
1 5 10 15

Phe Ser Leu Trp Tyr Pro Ser Arg Val Phe Pro Ser Pro Leu Gln Ser
20 25 30

Pro Ile Ser His Leu Phe Phe Ser Pro Ser Ser Phe Ser Tyr Cys
35 40 45

Val Leu Pro Ala Thr Ser His Arg Leu Val Val Tyr Lys
50 55 60

<210> 283

<211> 207

<212> PRT

<213> Homo sapiens

<400> 283

Met Gln Lys Met Leu Pro Glu Ile Asp Gln Asn Lys Asp Arg Met Leu
1 5 10 15

Glu Ile Leu Glu Gly Lys Gly Leu Ser Phe Leu Phe Pro Leu Leu Lys
20 25 30

Leu Glu Lys Glu Leu Leu Lys Gln Ile Lys Leu Asp Pro Ser Pro Gln
35 40 45

Thr Ile Tyr Lys Trp Ile Lys Asp Asn Ile Ser Pro Lys Leu His Val
50 55 60

Asp Lys Gly Phe Val Asn Ile Leu Met Thr Ser Phe Leu Gln Tyr Ile
65 70 75 80

Ser Ser Glu Val Asn Pro Pro Ser Asp Glu Thr Asp Ser Ser Ser Ala
85 90 95

Pro Ser Lys Glu Gln Leu Glu Gln Glu Lys Gln Leu Leu Leu Ser Phe
100 105 110

Lys Pro Val Met Gln Lys Phe Leu His Asp His Val Asp Leu Gln Val
115 120 125

Ser Ala Leu Tyr Ala Leu Gln Val His Cys Tyr Asn Ser Asn Phe Pro
130 135 140

Lys Gly Met Leu Leu Arg Phe Phe Val His Phe Tyr Asp Met Glu Ile
145 150 155 160

Ile Glu Glu Glu Ala Phe Leu Ala Trp Lys Glu Asp Ile Thr Gln Glu
165 170 175

Phe Pro Gly Lys Gly Lys Ala Leu Phe Gln Val Asn Gln Trp Leu Thr
180 185 190

Trp Leu Glu Thr Ala Glu Glu Glu Ser Glu Glu Ala Asp
195 200 205

<210> 284
<211> 105
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> (80)..(80)
<223> X at position 80 may be "Asp" or "Glu"

<400> 284

Phe Ser Cys Leu Ser Phe Leu Ser Ser Trp Asp Tyr Arg His Ala Pro
1 5 10 15

Pro Cys Leu Ala Asn Phe Ala Phe Leu Val Glu Thr Gly Phe His His
20 25 30

Val Gly Gln Ala Gly Leu Lys Leu Pro Thr Ser Gly Asp Leu Pro Thr
35 40 45

Ser Ala Ser Gln Ser Ala Gly Ile Thr Gly Met Ser Tyr Arg Ala Trp
50 55 60

Pro Val Tyr Phe Trp Arg Gln Ser Leu Ala Leu Leu Pro Arg Leu Xaa
65 70 75 80

Gly Ser Gly Ala Thr Leu Asn Ser Ala Ser Arg Val Gln Ala Ile Leu
85 90 95

Val Arg His Leu Pro Ser Ser Trp Gly
100 105

<210> 285

<211> 91

<212> PRT

<213> Homo sapiens

<400> 285

Leu Thr Ala Val Phe Phe Ser Phe Ile His Phe Ala Phe Phe Leu Tyr
1 5 10 15

Phe Arg Phe Asn Ser Thr Phe Lys Lys Ser Tyr Leu Tyr Ile Cys Ile
20 25 30

Phe Ile Phe Ile Phe Gln Asp Leu Ile Cys Leu Phe Phe Ile Met Gly
35 40 45

Tyr Tyr Cys Ser Met Val Gln Asn Leu Leu Phe Phe Pro Lys Leu Leu
50 55 60

Val Ile Phe Lys Ile Phe Val Asn Phe Leu Pro Leu Ala Ser Ser Gln
65 70 75 80

Val Pro Ala Phe Ser Gln Ser Ala Gly Phe Pro
85 90

<210> 286
<211> 75
<212> PRT
<213> Homo sapiens

<400> 286

Pro Lys Ser Leu Pro Gly His Pro Leu Ala Tyr Ser Leu Thr Gly His
1 5 10 15

Ala Pro Ala Val His Thr Gly Ser Tyr Gln Ser Ser Ser Trp Ala Pro
20 25 30

Phe Gln Thr Ser Glu Glu Ser Phe Gln His Glu Glu Gly Val Gln Asn
35 40 45

Lys Gln Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu Arg Glu
50 55 60

Lys Arg Asn Ile Asn Asn Ala Gly Ser Lys Arg
65 70 75

<210> 287
<211> 83
<212> PRT
<213> Homo sapiens

<400> 287

Met Tyr Cys Val Phe Asn Arg Asn Glu Asp Ala Cys Arg Tyr Gly Ser
1 5 10 15

Ala Ile Gly Val Leu Ala Ser Leu Ala Tyr Gln Arg Tyr Lys Ala Gly
20 25 30

Val Asp Asp Phe Ile Gln Asn Tyr Val Asp Pro Thr Pro Asp Pro Asn
35 40 45

Thr Ala Tyr Ala Ser Tyr Pro Gly Ala Ser Val Asp Asn Tyr Gln Gln
50 55 60

Pro Pro Phe Thr Gln Asn Ala Glu Thr Thr Glu Gly Tyr Gln Pro Pro
65 70 75 80

Pro Val Tyr

<210> 288
<211> 117
<212> PRT
<213> Homo sapiens

<400> 288

Met Val Arg Ala Thr Ala Met Pro Thr Ser Leu Ser Arg Cys Thr Ala
1 5 10 15

Cys Ser Thr Ala Thr Arg Met Pro Ala Ala Met Ala Val Pro Ser Gly
20 25 30

Cys Trp Pro Pro Trp Pro Thr Ser Ala Thr Arg Leu Ala Trp Thr Thr
35 40 45

Ser Ser Arg Ile Thr Leu Thr Pro Leu Arg Thr Pro Thr Leu Pro Thr
50 55 60

Pro Pro Thr Gln Val His Leu Trp Thr Thr Thr Asn Ser His Pro Ser
65 70 75 80

Pro Arg Thr Arg Arg Pro Pro Arg Ala Thr Ser Arg Pro Leu Cys Thr

85

90

95

Glu Arg Arg Leu Ala Trp Glu Gly Gly Gln Arg Gly Pro Ser Pro Leu
 100 105 110

Pro Trp Thr Phe Pro
 115

<210> 289
 <211> 1280
 <212> DNA
 <213> Homo sapiens

<400> 289
 gtcagccgca tcttctttg cgtcgccagc cgagccacat cgctcagaca ccatggggaa 60
 ggtgaaggtc ggagtcaacg gatttggtcg tattggcgc ctggtcacca gggctgctt 120
 taactctggt aaagtggata ttgttgccat caatgacccc ttcattgacc tcaactacat
 gtttacatg ttccaatatg attccaccca tggcaaattc catggcaccg tcaaggctga 180
 gaacgggaag cttgtcatca atggaaatcc catcaccatc ttccaggagc gagatccctc
 caaaatcaag tggggcgatg ctggcgctga gtacgtcgtg gagtccactg gcgtcttcac 240
 caccatggag aaggctgggg ctcatttgca ggggggagcc aaaagggtca tcatctctgc
 cccctctgct gatgccccca tgttcgcat gggtgtgaac catgagaagt atgacaacag 300
 cctcaagatc atcagcaatg ctcctgcac caccaactgc ttagcacccc tggccaaggt
 catccatgac aactttggta tcgtggaagg actcatgacc acagtccatg ccatcactgc 360
 cacccagaag actgtggatg gcccctccgg gaaactgtgg cgtgatggcc gcggggctct
 ccagaacatc atccctgcct ctactggcgc tgccaaggct gtgggcaagg tcatccctga 420
 gctgaacggg aagctcaactg gcatggcctt ccgtgtcccc actgccaacg tgtcagtgg
 ggacctgacc tgccgtctag aaaaacctgc caaatatgat gacatcaaga aggtggtgaa 480
 gcaggcgctcg gagggcccccc tcaagggcat cctgggctac actgagcacc aggtggtctc 540
 600
 660
 720
 780
 840
 900

ctctgacttc aacagcgaca cccactcctc caccttgac gctggggctg gcattgcct 960
caacgaccac tttgtcaagc tcatttcctg gtatgacaac gaatttggct acagcaacag 1020
ggtgtggac ctcatggccc acatggcctc caaggagtaa gaccctgga ccaccagccc 1080
cagcaagagc acaagaggaa gagagagacc ctcactgctg gggagtcctt gccacactca 1140
gtccccacc acactgaatc tcccctcctc acagttgcca tgttagacccc ttgaagaggg 1200
gaggggccta gggagccgca cttgtcatg taccatcaat aaagtaccct gtgctcaacc 1260
aaaaaaaaaaaa aaaaaaaaaaa 1280

<210> 290
<211> 2978
<212> DNA
<213> Homo sapiens

<400> 290
gccgtgagaa cacgctgtgt ggctgaaaag tgaaggcaag agctgatttgc gcctctgtgc 60
tcccctccgc aaggggatcg ttttctccag aagagctgga tattcttcg cccagttatg 120
gcagacaagt taacgagaat tgctattgtc aaccatgaca aatgtaaacc taagaaatgt 180
cgacaggaat gcaaaaagag ttgtcctgtt gttcgaatgg gaaaattatg catagaggtt 240
acaccccaga gcaaaatagc atggatttcc gaaactctt gtattggttt tggtatctgt 300
attnaagaat gcccctttgg cgccttatca attgtcaatc taccaagcaa cttggaaaaaa 360
gaaaccacac atcgatatttgc tgccaatgtt ttcaaacttc acaggttgc tatccctcg 420
ccaggtgaag ttttggatt agttgaaact aatggatttgc gaaagtcaac tgctttaaaa 480
attttagcag gaaaacaaaaa gccaacacctt ggaaagtacg atgatcctcc tgactggcag 540
gagattttga cttatccg tggatctgaa ttacaaaatt actttacaaa gattctagaa 600
gatgacctaa aagccatcat caaacctcaa tatgttagacc agattcctaa ggctgcaaag 660
gggacagtgg gatctatccc ggaccgaaaaa gatgaaacaa agacacagggc aattgtatgt 720

cagcagctt	at	ttaaaccca	cctaaaagaa	cgttgc	aaatgttgc	aggaggagag	780	
ttgcagagat	tt	gcttgc	tgctgtgc	at	acagaaaag	ctgatattt	catgttgat	840
gagccttcta	gt	ttacctaga	tgtcaagcag	cgtttaaagg	ctgctattac	tatacgatct	900	
ctaataaatac	ca	gatagata	tatcattgtg	gtgaaacatg	atctaagtgt	attagactat	960	
ctctccgact	tc	atctgctg	tttatatggt	gtaccaagcg	cctatggagt	tgtcactatg	1020	
ccttttagt	ta	agagaagg	cataaacatt	ttttggatg	gctatgttcc	aacagaaaaac	1080	
ttgagattca	ga	gatgcattc	acttgtttt	aaagtggctg	agacagcaaa	tgaagaagaa	1140	
gttaaaaaga	tg	tgttatgt	taaatatcca	ggaatgaaga	aaaaaatggg	agaatttgag	1200	
ctagcaattt	ta	gctggaga	gttacagat	tctgaaatta	tggtgatgct	gggggaaaaat	1260	
ggaacgggta	aa	acgacatt	tatcagaatg	cttgctggaa	gacttaaacc	tgatgaaggaa	1320	
ggagaagtac	ca	gttctaaa	tgtcagttat	aagccacaga	aaattagtcc	caaatcaact	1380	
ggaagtgtt	cc	aggttact	acatgaaaag	ataagagatg	cttatactca	cccacaattt	1440	
gtgaccgat	ta	atgaagcc	tctgcaaatt	gaaaacatca	ttgatcaaga	ggtgcagaca	1500	
ttatctgg	gt	gaactaca	gcgagtagct	ttagcccttt	gcttggcaa	acctgctgat	1560	
gtctattt	aa	ttgatgaacc	atctgcata	ttggattctg	agcaaagact	gatggcagct	1620	
cgagttgt	aa	cgttcat	actccatgca	aaaaagacag	cctttgttgc	ggaacatgac	1680	
ttcatcatgg	cc	acccatct	agcggatcgc	gtcatgttt	ttgatgggt	tccatctaag	1740	
aacacagt	ca	aacagtcc	tcaaaccctt	ttggctggca	tgaataaatt	tttgtctcag	1800	
cttggaaattt	ca	tccagaag	agatccaaac	aactataggc	cacgaataaa	caaacttaat	1860	
tcaattt	at	gttagaaca	aaagaagagt	ggaaactact	ttttcttgg	tgatttagact	1920	
gactctgaga	at	tttgataaa	gccatttatt	aaaaggagta	tttactagaa	ttttttgtca	1980	
tataaaaactt	ga	atcaggat	tttatgcccc	acatactctg	gaacttgaag	tataatatac	2040	
ttaatataac	at	aaaaagcc	agttgggttc	taaattgtag	ttgaaacaca	gaaaatgcc	2100	

cttttctgtt cctgaagagg ctctttgtg cataatattc taaaatgaag acatttcaag	2160
ctatacaaat tacttccaag ttttcatgtat gtatggaaag atttttagtta ggtgtattat	2220
attcacggta ccaaattgtg accagtgttgc tccatttt taaatcttga aaagggttc	2280
tgtacttacc tggtttgc agtatgccag tgtaatgaaa ctgccttat tttaaaagcc	2340
agtcaaagat tccactgatt gacattttagt aaataaacat caggattatg tttattgtt	2400
gttttcagtc tttgcactat attaccagta tatggttcc gaggaagatt atctactgca	2460
aaacaccact gttggaaaaaa tagtatttt taaattgttt ttaatcttt ttggcctt	2520
taaacatgtt tagcaaaaac caattcagtt ccattccccg caaaaaaccc ctaactttac	2580
tctgaacttt tttgtttt gcattccatg aggttctgtt ttcagtcatt ctctaggtaa	2640
tgtcattttt gtacacatattt atttatataa tcactgattt agattttagga aaaagcattt	2700
ctaaagaata tttgcttccc ttagaactac agactcgaaa tcttaaaga tggcctaa	2760
gcatctatgt attttttta agttccacag attttctgt tggcagcca aggattataa	2820
accacttccc taaaggcaac attaatgcaa aagccccac cccatggctt ccatcttttgc	2880
catcaccacc actcctgaac ccccatattct gatttgcgtt aattttttt taacaaaact	2940
aaaaatgaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	2978

<210> 291
 <211> 1218
 <212> DNA
 <213> Homo sapiens

<400> 291	
gaagttactg cagccgcgggt gttgtgtgtt gggaaaggaa gaaggatttgc taaaccccg	60
agcgagggttc tgcttacccg aggccgctgc tggcgagaa ccccccgggtt aagccaccgt	120
catcatgtct gaccaggagg caaaaccttc aactgaggac ttgggggata agaaggaagg	180
tgaatatatt aaactcaaag tcattggaca ggatagcagt gagattcact tcaaagtcaa	240
aatgacaaca catctcaaga aactcaaaga atcatactgt caaagacagg gtgttccat	300

gaattcactc aggttctct ttgagggta gagaattgct gataatcata ctccaaaaga	360
actggaaatg gaggaagaag atgtgattga agtttatcag gaacaaacgg ggggtcattc	420
aacagtttag atattctttt tattttttt ctttccctc aatcctttt tattttaaa	480
aatagttctt ttgtaatgtg gtgtcaaaa cggaaattgaa aactggcacc ccatctctt	540
gaaacatctg gtaattgaa ttcttagtgc cattattcat tattgttgtt tttcattgtg	600
ctgatttttgc gtgatcaagc ctcagtcggc ttcatattac cctctccctt taaaaaatta	660
cgtgtgcaca gagaggtcac cttttcagg acattgcatt ttcaggcttggtgataaaa	720
taagatcgac caatgcaagt gttcataatg actttccaaat tggccctgat gttctagcat	780
gtgattactt cactcctgga ctgtgacttt cagtgggaga tggaaagttt tcagagaact	840
gaactgtgga aaaatgacct ttccttaact tgaagctact tttaaaattt gagggctgg	900
acccaaaagaa gaggaatatc aggttgaagt caagatgaca gataaggtga gagtaatgac	960
taactccaaa gatggcttca ctgaagaaaa ggcattttaa gattttttaa aaatcttgc	1020
agaagatccc agaaaagttc taattttcat tagcaattaa taaagctata catgcagaaa	1080
tgaatacaac agaacactgc tcttttgat tttatttgc tttttggcc tgggatatgg	1140
gttttaatg gacattgtct gtaccagctt cattaaaata aacaatattt gtaaaaatca	1200
aaaaaaaaaaaa aaaaaaaaaa	1218

<210> 292
 <211> 825
 <212> DNA
 <213> Homo sapiens

<400> 292	
cgcctcggag gcgttcagct gcttcaagat gaagctgaac atctccttcc cagccactgg	60
ctgccagaaa ctcattgaag tggacgatga acgcaaactt cgtactttct atgagaagcg	120
tatggccaca gaagttgctg ctgacgctct gggtaagaa tggaaagggtt atgtggtccg	180

aatcagtgg	ggaaacgaca	aacaagg	tttccccatgaag	cagggtgtct	tgacc	catgg	240
ccgtgtccgc	ctgctactga	gtaagggca	ttcctgttac	agaccaagga	gaactggaga		300
aagaaagaga	aaatcagttc	gtgggtgc	atgtggatgca	aatctgagcg	ttctcaactt		360
ggttattgt	aaaaaaggag	agaaggat	tcctggactg	actgatacta	cagtgcctcg		420
ccgcctggc	cccaaaagag	ctagcagaat	ccgcaaaactt	ttcaatctct	ctaaagaaga		480
tgatgtccgc	cagtatgtt	taagaaagcc	cttaaataaa	gaaggttaaga	aacctaggac		540
caaagcaccc	aagattcagc	gtcttgttac	tccacgtgtc	ctgcagcaca	aacggcggcg		600
tattgctctg	aagaagcagc	gtaccaagaa	aaataaaagaa	gaggctgcag	aatatgctaa		660
acttttggcc	aagagaatga	aggaggctaa	ggagaagcgc	caggaacaaa	ttgcgaagag		720
acgcagactt	tcctctctgc	gagcttctac	ttctaagtct	gaatccagtc	agaaataaga		780
tttttgagt	aacaataaa	taagatcaga	ctctgaaaaaa	aaaaaa			825

<210> 293
 <211> 1978
 <212> DNA
 <213> Homo sapiens

<400> 293	ggccggagcg	gcbcggcagc	ggcaggaccg	ccgtggcgcc	tagatgtcg	accgggggg	60
	agcgccgggc	gacgctggct	gcagggaccc	ggtgacagcg	tgagaggtac	tagtttga	120
	caagcttgca	tcatgcgtga	gtataagcta	gtcggttgc	gctcaggagg	cgttggaaag	180
	tctgcttga	ctgtacaatt	tgttcaagga	atttttgtag	aaaaatacga	tcctacgata	240
	gaagattctt	atagaaagca	agttgaagta	gatgcacaac	agtgtatgct	tgaaatcttgc	300
	gatactgcag	gaacggagca	atttacagca	atgaggatt	tatacatgaa	aaatggacaa	360
	ggatttgc	atgttttattc	catcacagca	cagtccacat	ttaacgattt	acaagac	420
	agagaacaga	ttcttcgagt	taaagacact	gatgatgttc	caatgattct	tgttggtaat	480
	aagtgtgact	tggaagatga	aagagttgt	ggaaaggaac	aaggtcaaaa	tctagcaaga	540

caatggaca actgtgcatt cttagaatct tctgcaaaat caaaaataaa tgttaatgag	600
atctttatg acctagtgcg gcaaattaac agaaaaactc cagtgcctgg gaaggctcgc	660
aaaaagtcat catgtcagct gcttaatat actaaatgca ttgttagctct gagccaggc	720
tgaagaactg ttgccaatt caacagtgcg agcattccaa ctttgtaaa cctaccaaca	780
tcttaatgg acttcctgt ggtggtaccc tttaagaggc ggatgaaagc tactatatca	840
gtttgcacat tctaattact ttccagttatc acaagagaga ttttactta tataatagtc	900
ctagagttt cagctggtaa aaccagaggc tacatccagt attactgcta agagacattc	960
ttcatccacc aatgttgtac atgtatgaaa atgggtact gtatactta acatgcccc	1020
tactttgtat tggagagttac aataatgtaa atcctaaaag caccactatt ttagcataat	1080
aaaagaaaagt ccaaagagct cctatataga ctactccaga taacttcgct tctttgatac	1140
ttgttagctta ttgttaatttt tttaagaaa ttcaaggtca ttattattgt acaaaataag	1200
cgctttgatt aacacagcta tatagtttt ttaattttta aaaaacctgt ggagacggtg	1260
atcttgcatt taaaacatga tagtccttc agtataatgt ctttagattaa agacgttgcc	1320
tttaatatct gttggaaagg aaatgtccag actttcaaa tctcttattta tttgtttcct	1380
ttttttgttt acatagggaa caatgttat agtcgtgtgt acagtgggg tctacaacaa	1440
gaagtgtata ttcaaaaca atttttaat gattnaaca ttgtttaaaa tcattttcag	1500
gcttcgcag ctgttagattc tcactgtgaa tcccttgctt gctcatgcat aagtgtattt	1560
gcaataccaa atatacaggt ttgttattt tgcctgttag tgattgttc acatgtgtaa	1620
cgtttggtt gagatgttaa atgggtggacg agtactgtgg atgtgaatgt ggaaagtaat	1680
tttaatcata tgtaatttgtt cacaaggcct aatttgcagt aactattgct gttttattta	1740
acaatgcctt gttgctttgt atgcattaaat gtttggatgt aaagattgtg tgtctatcca	1800
acagggagcc acagtattta aattgaccaa cctaattgtt caactacttt gaggtggcc	1860
aatgtaaact aaaagcctta attaaagtgg tgcaatttg tataacttag catcagtagt	1920

tcaataaatt tggattgcc a tgcaagggct tgcctataa aaaaaaaaaa aaaaaaaaaa 1978

<210> 294

<211> 895

<212> DNA

<213> Homo sapiens

<400> 294

gccatcttgc gtcccgcggt gtgtgcgcct aatctcaggt ggtccacccg agaccccttg 60

agcaccaacc ctagtccccc gcgcggcccc ttattcgctc cgacaagatg aaagaaaacaa 120

tcatgaacca ggaaaaactc gccaaactgc aggacaaagt ggcattgggt gggaaaggaa 180

ctgctcgcag aaagaagaag gtggttcata gaacagccac agcagatgac aaaaaacttc 240

agtttcctt aaagaagtta gggtaaaca atatctctgg tattgaagag gtgaatatgt 300

ttacaaacca aggaacagtg atccacttta acaaccctaa agttcaggca tctctggcag 360

cgaacacttt caccattaca ggccatgctg agacaaagca gctgacagaa atgctaccca 420

gcatcttaaa ccagcttgggt gcggatagtc tgactagttt aaggagactg gccgaagctc 480

tgcccaaaca atctgtggat ggaaaagcac cacttgctac tggagaggat gatgatgatg 540

aagttccaga tcttggag aattttgatg aggcttccaa gaatgaggca aactgaattt 600

agtcaacttc tgaagataaa acctgaagaa gttactggga gctgctattt tatattatga 660

ctgctttta agaaattttt gtttatggat ctgataaaat ctagatctct aatattttta 720

agcccaagcc cttggacac tgcagctttt ttcagttttt gcttatacac aattcattct 780

ttgcagctaa ttaagccgaa gaagcctggg aatcaagttt gaaacaaaga ttaataaaagt 840

tcttcgccta gtaaaaaaaaa aaaaaaaaaa aaaaataaaaa aaaaaaaaaa aaaaa 895

<210> 295

<211> 1358

<212> DNA

<213> Homo sapiens

<400> 295		
gttccaaccc	agggggaaaa atgcggcctt tgactgaaga ggagacccgt gtcatgttg	60
agaagatagc	gaaatacatt ggggagaatc ttcaactgct ggtggaccgg cccgatggca	120
cctactgttt	ccgtctgcac aacgaccggg tgtactatgt gagtgagaag attatgaagc	180
tggccgccaa	tattccggg gacaagctgg tgcgtggg gacctgctt ggaaaattca	240
ctaaaaccca	caagttcgg ttgcacgtca cagctctgga ttaccttgca cttatgcca	300
agtataaaagt	ttggataaaag cctgggtcag agcagtcctt cctgtatggg aaccatgtgt	360
tgaaatctgg	tctgggtcga atcactgaaa atacttctca gtaccaggc gtgggtgggt	420
actccatggc	agacatccct ttgggtttt ggtggcagc caaatctaca caagactgca	480
gaaaagtaga	ccccatggcg attgtggtat ttcatcaagc agacattggg gaatatgtgc	540
ggcatgaaga	gacgttgact taaaacgaag ccattccaag gacagacggc tgtatggaaa	600
ggccgagctt	tgttcctgt gtttgtgtgg actccaccat catgttgaat ttgtcaaca	660
ctctggcctc	ttcagggact tcttatttac tgtactctt atcactgaca aatgcaggct	720
ggattcttat	tatatacaga gatggctcaa aaatgggtt tcagatctt gtgacgaaat	780
agaatactgt	ttcatatttgc aatcagaggg cttctgttc tgagaaatag gttcaaaatc	840
attggaacca	ggaacaagaa tagcttatttgc ttatctgtga taacactgtt ttctaaacac	900
aaggattttc	tttttatttata atatgcaaca tagacattgc cataacagaa taataaacca	960
catgtggggt	tttaaaaatg aaatttggct aataggagca attcagctat tttctatac	1020
agtaatttgt	gtgtggata gaagaaaaac gggttcaaacc cccacttctg ccacccatcca	1080
gctatatggc	cttgaatgag tcattcagct ttaataaggt tcattttctt ctgtttaaaa	1140
agacacaaaa	cttggaaaatc agctttggcc atctacctga gaattagaaa gtctgatttt	1200
tggaaattaga	aatcatgatt gtaggctggg cacagtggtc cgccctgtta atcccagcac	1260
tttggggaggc	caaggcggac ggatcacttg aggttaggag tttgagacca gcctggccaa	1320
catggtgaaa	ccccatctct actaaaaaaaaaaaaaaa	1358

<210> 296
 <211> 2033
 <212> DNA
 <213> Homo sapiens

<400> 296
 ggttaaagatg gcagctacca tttccgggc tacgctgcgg gatggagaa ccggtgtcca 60
 gcggggctgc gggctacggc tttgagcca gaccaggc cctccagatt accccaggtt 120
 tgtggagtct gtggatgaat atcagttgt ggagcgcctg ttaccggcta ccaggatccc 180
 agatccccca aagcatgaac attatcctac ccctagtggc tggcagcctc ccagagaccc 240
 cccacccaac ctgccttact ttgtacgacg ctctcgatg cacaacatcc ccgtctacaa 300
 ggacatcacg catggcaacc ggcagatgac tgtgatccgg aaagtggaaag gggacatctg 360
 ggcctgcag aaagacgtgg aagatttct gagcccgctg ctgggaaaga cacctgtcac 420
 ccaggtcaat gaggtgacag gtaccctacg gatcaaggc tactttgacc aggagctaa 480
 agcctggctc ttggagaaag gttctgagg cccagccga gcagcctgct tgtagcatg 540
 ccctgtggat caagtctagg gggcctcagg aggaggagg tgggtgttgg agccctgag 600
 acagggata cagaaactag ggctaaagga ctttgggtc aggccttgct tgcataaaagg 660
 agaaaacaac tctatgtaca tgctgggga gagtcctaa tgtggagac caaataggaa 720
 tcaccaggct aatggggggc gtcagcagct ttctctccct cctatctgg cctgttctt 780
 tttttttt gagacggagt ctcactctgt tgcccgagggt ggagtgcagt ggcatgatct 840
 tggctcactg caacttccac ctctggatc aaggattct ctcgcctcag cctcttgagt 900
 agctggatt acaggcgccc accaccacag cctgctaatt tttgtattt tagtagagat 960
 ggggttcac catgttggcc aggctggctc caaactcctg actcgaagtg atccgcccac 1020
 cttggcctcc caagcgttg ggattatagg catgagccat gtgcctggtc caccttggcc 1080
 tgttttgttt ttcttcctt gggctcagca attcaaattc tagttgttat ttgggtggaaag 1140

cagtagccc accccagttt aggggaaggt agcacagggc agagccactg ggcacttgt	1200
ttccttggcc ctccgaagct cactgttgca aatacccca agccttgct ctaggccaga	1260
tcttgttgg tgcaggtgat ggagaacaca gatgactcgg gcatgggtct tggagatctt	1320
ctgttcaaag tacagtgctg gcactgggc acagagtgcc cacgttagcc ccgggctctg	1380
atagagaggt aggaggcacg ttcttggtca ctgttccatt gcagaccaga cttgctggcc	1440
tgaccacaag ggagtggctg ggaactcaca gccagcatag ggacatcccc ctgcagcctt	1500
ctgacctgca atcaaggctg gggaggggtt tgcaggcagg aatatgctga cctttcaccc	1560
tgccatccca tcccaacccc agctcaactag ctttcatata tgccttatac ttggagtcac	1620
aggggccaaa ggcctgagac cccaccctgc ccccaaactg gctaagacag ctttcagttc	1680
ctgactcccc aacttggtct ctgccctgaa gcagggcaact gaaactctggg ctgcttctct	1740
gtgtgtaaaa tgggcacatc ttccataatct gttaatggtc agtgggtgtcc ccaaggatag	1800
tgctggcttc catgaaacc ctcactcctg gagattccat tccatttca agtgtacagc	1860
cacagcaagg agcccgacac tgatttgatc gattctgtga cacaaccccc accaattgtt	1920
aatgcaagtt ttatattggc tgtatataca atttaagcta taaaatttg tacaatattt	1980
acaaaattaaa taatcatctg aaactgtcaa aaaaaaaaaa aaaaaaaaaa aaa	2033

<210> 297
 <211> 1059
 <212> DNA
 <213> Homo sapiens

<400> 297	
gttttctgtc actggacgcc aaggagttt cgggtggctca gctggtaac cggggatcac	60
catggcggcc tcattggtgg ggaagaagat cgtgttgta acggggaaacg ccaagaagct	120
ggaggaggtc gttcagattc taggagataa gtttccatgc actttggtgg cacagaaaat	180
tgacctgccc gacttaccaag gggagccgga tgagattcc atacagaaaat gtcaggagggc	240
agttcgccag gtacaggggc ccgtgctggc tgaggacact tgtctgtgct tcaatgcct	300

tggagggctc	cccgccccct	acataaagtg	gtttctggag	aagttaaagc	ctgaaggct	360
ccaccagctc	ctggccgggt	tcgaggacaa	gtcagcctat	gcgctctgca	cgtttgact	420
cagcacccggg	gacccaagcc	agcccggtcg	cctgttcagg	ggccggaccc	cgggcccggat	480
cgtggcaccc	agaggctgcc	aggactttgg	ctgggacccc	tgctttcagc	ctgatggata	540
tgagcagacg	tacgcagaga	tgcctaaggc	ggagaagaac	gctgtctccc	atcgcttccg	600
ggccctgctg	gagctgcagg	aataactttgg	cagtttgca	gcttgacttc	tgcagctgga	660
ggaggccccct	caggccgggg	atctggggag	ggctagccca	aaacctcccg	catcgggcag	720
gcacccctg	aagtacttcc	ttcagggttt	ccccttgtg	agggtgtcga	gtagcctcac	780
cggcctgtct	ggaggagcag	ctggctctgc	tctgagaaac	tctggcaagt	ggacgccatt	840
ctcttgccct	taggattcac	tgctctctcc	tacagccgcc	aggcctgggg	tcctgaaagg	900
acttgggtg	gtaaagctgt	acttggtggg	agtgagggcg	tggggagggaa	ccatgcaaata	960
cgccttccat	ggttttaaa	tgcagtaat	aacatttctg	gatgagactt	gtttccaaaa	1020
taaaccagct	atatctgttt	tgaaaaaaaaa	aaaaaaaaaa			1059

<210> 298
 <211> 1769
 <212> DNA
 <213> Homo sapiens

<400> 298	gggttgggct	gtgacgctgc	tgctggggtc	agaatgtcat	acccaggcta	tcccccaca	60
	ggctacccac	ctttccctgg	atatcctcct	gcaggtcagg	agtcatctt	tcccccttct	120
	gtcagtatc	cttacccctag	tggcttcct	ccaatgggag	gaggtgccta	cccacaagtg	180
	ccaagtagtg	gctacccagg	agctggaggc	taccctgcgc	ctggaggat	tccagccct	240
	ggaggctatc	ctgggtcccc	acagccagg	ggagctccat	cctatcccgg	agttcctcca	300
	ggccaaggat	ttggagttcc	accaggtgga	gcaggcttt	ctgggtatcc	acagccaccc	360

tcacagtctt atggaggtgg tccagcacag gttccactac ctggggctt tcctggagga 420
cagatgcctt ctcagtatcc tggaggacaa cctacttacc ctagtcagcc tgccacagtg 480
actcaggtca ctcaaggaac tatccgacca gctgccaact tcgatgctat aagagatgca 540
gaaattcttc gtaaggcaat gaagggttt gggacagatg agcaggcaat tgtggatgtg 600
gtggccaacc gttccaatga tcagaggcaa aaaattaaag cagcattaa gacccctat 660
ggcaaggatt taatcaaaga tctcaaatca gagttaagtg gaaatatgga agaactgatc 720
ctggccctct tcatgcctcc tacgtattac gatgcctgga gcttacggaa agcaatgcag 780
ggagcagggaa ctcaggaacg tgtattgatt gagattttgt gcacaagaac aaatcagggaa 840
atccgagaaa ttgtcagatg ttatcagtca gaatttggac gagaccttga aaaggacatt 900
aggtcagata catcaggaca ttttgaacgt ttacttgtgt ccatgtgcca gggaaatcgt 960
gatgagaacc agagtataaa ccaccaaatg gctcaggaag atgctcagcg tctctatcaa 1020
gctggtgagg ggagactagg gaccgatgaa tcttgctta acatgatcct tgccacaaga 1080
agctttcctc agctgagago taccatggag gcttattcta ggatggctaa tcgagacttg 1140
ttaaggcgtg tgagccgtga gtttccgga tatgtagaaa gtggttgaa gaccatctg 1200
cagtgtgccc tgaaccgccc tgcctctt gctgagaggc tctactatgc tatgaaaggt 1260
gctggcacag atgactccac cctggccgg attgtggtca ctcgaagtga gattgaccctt 1320
gtacaaataa aacagatgtt cgctcagatg tatcagaaga ctctggcac aatgattgca 1380
ggtgacacga gtggagatta ccgaagactt cttctggcta ttgtggcca gtaggaggga 1440
ttttttttt tttaatgaaa aaaaaatttc tattcatagc ttatccttca gagcaatgac 1500
ctgcatgcag caatatcaa catcagctaa ccgaaagagc tttctgtcaa ggaccgtatc 1560
aggtaatgt gcttggtttgc acatgttgtt tattgccttca attctaattt tattttgttc 1620
tctacataca atcaatgtaa agccatatac caatgataca gtaatattgc aatgtttgt 1680
aaccttcatt cttactagtt tcattctaat caagatgtca aattgaataa aaatcacagc 1740

aatcttgaa aaaaaaaaaa aaaaaaaaaa 1769

<210> 299

<211> 463

<212> DNA

<213> Homo sapiens

<400> 299

cgcggccca caatggtgcg catgaatgtc ctggcagatg ctctcaagag tatcaacaat 60

gccgaaaaga gaggcaaacg ccaggtgctt attaggccgt gctccaaagt catcgccgg 120

tttctcaactg tcatgtatgaa gcatggttac attggcgaat ttgaaatcat tcatgaccac 180

agagctggga aaattgttgtt gaacctcaca ggcaggctaa acaagtgtgg ggtgatcagc 240

cccagatttgc acgtgcaact caaagacctg gaaaaatggc agaataatct gcttccatcc 300

cggcagtttgc gtttcatgtt actgacaacc tcagctggca tcatggacca tgaagaagca 360

agacgaaaac acacaggagg gaaaatcctg ggattcttt tctagggatg taatacatat 420

atttacaaat aaaatgcctc atggacaaaa aaaaaaaaaa aaa 463

<210> 300

<211> 703

<212> DNA

<213> Homo sapiens

<400> 300

gcgagaatga agactattct cagcaatcag actgtcgaca ttccagaaaa tgcgacatt 60

actctgaagg gacgcacagt tatcgtaag ggccccagag gaaccctgcg gagggacttc 120

aatcacatca atgtagaact cagccttctt ggaaagaaaa aaaagaggct ccgggttgac 180

aaatggtggg gtaacagaaa ggaactggct accgttcgga ctattttag tcatgtacag 240

aacatgatca agggtgttac actgggcttc cgttacaaga tgaggtctgt gtatgctcac 300

ttccccatca acgttggat ccaggagaat gggctcttg ttgaaatccg aaatttcttg 360

ggtaaaaaat acatccgcag ggttcggatg agaccaggtg ttgcttggc agtatctcaa 420

gcccgaaaag atgaattaat ccttgaagga aatgacattg agcttgttc aaattcagcg	480
gcttgattc agcaagccac aacagttaaa aacaaggata tcagggaaatt tttggatggt	540
atctatgtct ctgaaaaagg aactgttcag caggctgatg aataagatct aagagttacc	600
tggctacaga aagaagatgc cagatgacac ttaagaccta cttgtgatat ttaaatgatg	660
caataaaaaga cctattgatt tggaaaaaaa aaaaaaaaaa aaa	703

<210> 301
 <211> 887
 <212> DNA
 <213> Homo sapiens

<400> 301	
gcgggggcca ggggtggcg cgggagacgg ggcggtaccc ggggtggag agggacgggg	60
agggggcgag gggcggaggc cgagggggca ggggggggtgg gcggcggcca gtgttacag	120
atgagctta actgcccct caggcgtgga gacggagacc ccgcagcccg gcggcgccctc	180
agcccttcaa cgacagtatt gagtggtcag gttacaataa accggagaga aaaggtccgc	240
ttgcactttt tttagtttc ttatttttag acaccctcc cctccagggt gatcttaaa	300
aaagcaaaac aaaaaacacg actttccag ccgctcagcc gtttttcct ttcgtccgaa	360
gccgtttct gattgactt ttctcgccgg ccggtctcag gccgcacaga cgttccagag	420
gaggagggtg acattttac tcccttttg gggctaacca tttatgctt tgtacatcaa	480
ccgtgcgcgg ccggaggggg gcaggggggc gggggccgag gggcgttcca atcaaattc	540
taactttctg ttaattatta atccctttt tactgcggtt tctgttgtca tttttaaaat	600
tttttaatt tttttttt ttttactttt acttttacc tcttgtgtat atgtaggaa	660
tttataggga aatatgtact ttatggaata aatttaaga actaaaatat attttatttt	720
aaataaaagta atggacctt aatcttacgc agctaaatta ctgattatat atttgctgag	780
ctgatttaag gttaaaaaaa attgtatcaa gagtttatt tttgacttc aaagccttgt	840
taataaagcc tcttttatac atgtgaaaaa aaaaaaaaaa aaaaaaaaa	887

<210> 302
<211> 905
<212> DNA
<213> Homo sapiens

<400> 302
gttctagatc gcgagtgccc gccctttttt ttttttttt tgcaggaagg aattccattt 60
attgtggatg catttcaca atatatgttt attggagcga tccattatca gtgaaaagta 120
tcaagtgttt ataaaatttt taggaatggc agattcacag aacatgctag tcagcctgca 180
gtattcctcc agaagagcta accagggcag ggctggcatg agaagtgaca tctgcgttac 240
aaagtctatc ttcctcataa gtctgtaaag agcaattgaa tcttctagct ttagcaaacc 300
taagccaaag gaaggaaagc cacgaagaat gcagaagtca aaccctcatg acaaagttagg 360
cacaagtcta caataagcta aatcagaatt tacaaataca agtgtcccag gtagcattga 420
ctcccgcat tggagtgaaa tggatcaaag tttgaattaa ggcctatggt aaggtAACAT 480
tgctttgtt tactttgaa caagagctcc tcctgatcac tattacatat ttttctagaa 540
aatctaaagt tcagaagaga atgtatcact gctgactttt attccatat ttggatggag 600
taagtttag ggtagaattt tgttcagttt ggatttaatc tttgaaaag taaattcctt 660
gtttactggt ttgactataa ttctctgtta tcttacgag gtaaaactgc aagctgacta 720
gcatgttctg tgaatctgcc attcctaaaa attttataaa cacttgatac ttttcactga 780
taatggatcg ctccaataaa catatattgt gaaaatgcat ccacaataaa tggaattcct 840
tcctgcaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 900
aaaaa 905

<210> 303
<211> 1832
<212> DNA
<213> Homo sapiens

<400> 303	
tcagcaaagg gaaatcaccc tgaaagggttt tagaaatgggt agttttggag ttttgggtggc	60
aaccaatgtt gctgcacgtg ggttagacat ccctgagggtt gatttggtta tacaaagctc	120
tccacccaaag gatgttagagt cctacattca tcgatccggg cggacaggca gagctggaag	180
gacgggggtg tgcatctgct tttatcagca caaggaagaa tatcagttag tacaagtgga	240
gcaaaaagcg ggaattaagt tcaaacgaat aggtgttcct tctgcaacag aaataataaa	300
agcttccagc aaagatgcca tcaggcttt ggattccgtg cctcccactg ccattagtca	360
cttcaaacaa tcagctgaga agctgataga ggagaaggga gctgtggaag ctctggcagc	420
agcactggcc catatttcag gtgccacgtc cgtagaccag cgctccttga tcaactcaaa	480
tgtgggtttt gtgaccatga tcttgcagtg ctcattgaa atgccaataa ttagttatgc	540
ttggaaagaa cttaaagagc agctggcgaa ggagattgat tccaaagtga agggaatgg	600
ttttctcaaa ggaaagctgg gtgttgctt tcatgtaccc accgcatcag taacagaaat	660
acaggagaaa tggcatgatt cacgacgctg gcagctctct gtggccacag agcaaccaga	720
actggaaagga ccacgggaag gatatggagg cttcagggga cagcgggaag gcagtcgagg	780
cttcagggga cagcgggacg gaaacagaag attcagagga cagcgggaag gcagtagagg	840
cccgagagga cagcgatcag gaggtggcaa caaaagtaac agatccaaa acaaaggcca	900
gaagcggagt ttcagtaaag catttggtca ataattagaa atagaagatt tatatacgaa	960
aaagagaatg atgtttggca atatagaact gaacattatt tttcatgcaa agttaaaagc	1020
acattgtgcc tcctttgac cacttgccaa gtccctgtct ctttcagaca cagacaagct	1080
tcatttaaat tatttcatct gtcatttac atttataact ttattgttac ttcatcagtt	1140
tttccttttggaaagggttat gaattcatta cattttatt ctaatgtatt atctgttagat	1200
tagaagataa aatcaagcat gtatctgcct atactttgtg agttcacctg tctttatact	1260
caaaagtgtc ccttaatagt gtcctccct gaaataaata cctaaggag tgtaacagtc	1320
tctggaggac cactttgagc ctttggaaagt taaggttcc tcagccacct gccgaacagt	1380

ttctcatgtg gtcctattat ttgtctactg agacttaata ctgagcaatg tttgaaaca 1440
agatttcaaa ctaatctggg ttgtaataca gtttatacca gtgtatgctc tagacttgga 1500
agatgttagta tgttttagtgg ggattaccta tacttatgtt cgtttgata catttttagc 1560
ttctcattat aaggtgattc atgcttttagt gaattcttca tagatagttat atataaaagt 1620
acatttaat agaaagccag ggtttaagg aatttcacat gtataaggtg gctccatagc 1680
tttattttagta agtaggctgg ataaatggtg cttaaatgggt aatgtactcc acttcttcct 1740
attggaagat taacattatt taccaagaag gacttaaggg agtaaggggc gcagattagc 1800
attgctcaag agtatgtaaa aaaaaaaaaaa aa 1832

<210> 304
<211> 1824
<212> DNA
<213> Homo sapiens

<400> 304
ggcaggacag aagacttcag ctgcctgtc cacagtggc tctgccatca gcaggaagct 60
tggagacatg aggaactctg cgaccttcaa gtcgttgag gaccgagttg ggaccataaa 120
gtctaagggtt gtgggtgaca gagagaacgg cagtgacaac ctcccttcct cagcggggag 180
tggtgacaag cccctgtcgg atcccgacc tttctaagcc tgtggttgct tcacccgctg 240
cagagcacac gcaacccagc ctcagcatca cagccgcagc tctgttcagc ggagcagcca 300
gccagggcgg atgagcagag ccggccctga ggacagtctt gcccattccac gcggagatgt 360
ggctgcccgcg tttgcatgaa tttggagaaa acaggcttgt acacagatgt tttacactca 420
cgttttaga tgaaacagat cactgtgctg tccttcctag gggtgcagga agtggacagg 480
gcggagggtt tgaaagaata ttgagccaaa gcccaggctc ctttggaa tcatgttagc 540
ccatcagaat gttgaaggat tgaagagttc taagcgtaaa ataagtggca ttttctgact 600
tcttccttcct ctccttcctcc tgactcacag aaggaatgca atcaccacgc aagtccatcc 660

tgttacgcaa	tttttatct	caaaatgccg	aacgagaaaa	ctgtccattt	tctgagaccc	720
ccagaaagga	aactgaccct	cagcagctgc	ctgattgtta	cgcgaatcta	gctttaacgg	780
aagcaaattc	attattttt	aatgcagtg	gactttcaa	aaagttaaa	ttaggcaaag	840
cagcttagc	ctcatagaat	attatttctt	tggactcaag	ctgaaataca	agccttacat	900
tgccttatgc	tttatttctt	tctaattttt	atatgtatat	agatgagggt	tccttaatgg	960
tttgtgagcat	tgtgtggaat	tttacacctg	gcctgcgtgg	cagcctcttc	cagttgaggt	1020
gttttatgtc	acgcacactc	catcccagtg	tacaaaacct	gcttctcttc	tcaaccgtgg	1080
cagctccgc	tggctcctat	gccctgcct	aaagggtct	tgagcctctg	ggaatgggag	1140
gggccaagag	aaggaaaacc	ctgtcttag	cacccttaa	aagaactgtg	cccccttct	1200
cagtgctgcc	tttgcatggg	cctggcccgg	ctcacattcg	tcagtgactc	caaccctcct	1260
gcttgctgta	cttggatga	aacgaccca	caggtcaagt	ggagggtggg	gcgtgggcat	1320
cagccaggat	tgccgttaca	gtctttct	caggagctac	aaagatctct	tcctgttact	1380
aaatggtcgc	accccagcag	cctctctcgc	acaccggggc	cctgcatgtc	agatggcgtg	1440
gtctgcaggg	ggagctctgt	gccttagtgg	ctcttggcag	gacactgagg	gcctgcctgt	1500
ggtgtgcccgg	gctctgccac	tcccgggagg	ggaagggtctg	ctcagctcaa	ggtgtcctgt	1560
tcggtagagc	aagtgtcctc	tgacagccgt	gtccccggac	agttcagaca	cccttgggga	1620
tggcactcca	cacacgacag	agatgcaggg	gccagggaaag	cccagcgctc	ggtgcccttc	1680
gtccagggtt	aaaatcgcc	tgtgggtgt	ggtgagaagg	caggttgtgc	gggtgttgac	1740
cgtatgtatct	tttccttaaa	gttattataa	taatggtaa	tttgtcaata	aagcattcct	1800
ttgggggaaa	aaaaaaaaaa	aaaa				1824

<210> 305
 <211> 759
 <212> DNA
 <213> Homo sapiens

<400> 305
 cgatgggcat ctctcgggac aactggcaca agcgccgcaa aaccgggggc aagagaaagc 60
 cctaccacaa gaagcggaaag tatgagttgg ggcccccagc tgccaacacc aagattggcc 120
 cccgcccgcac ccacacagtc cgtgtcgaaa gaggttaacaa gaaataccgt gccctgaggt 180
 tggacgtggg gaatttctcc tggggctcag agtgttgtac tcgtaaaaca aggatcatcg 240
 atgttgcata caatgcacatct aataacgagc tggttcgtac caagaccctg gtgaagaatt 300
 gcatcgtgct catcgacagc acaccgtacc gacagtggta cgagtcccac tatgcgctgc 360
 ccctggggccg caagaaggaa gccaagctga ctccctgagga agaagagatt ttaaaca 420
 aacgatctaa aaaaattcag aagaaatatg atgaaaggaa aaagaatgcc aaaatcagca 480
 gtctcctgga ggagcagttc cagcagggca agcttcttgc gtgcacatcgct tcaaggccgg 540
 gacagtgtgg ccgagcagat ggctatgtgc tagagggcaa agagttggag ttctatctta 600
 ggaaaatcaa ggcccgcaaa ggcaaataaa tccttgaaaa gtcttcaccc atgtaataaa 660
 ggtgtttatt gtttggccca caaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 720
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 759

<210> 306
 <211> 938
 <212> DNA
 <213> Homo sapiens

<400> 306
 gtcgtcgaaaa tttcctgctt caacagtgtt tggacggaaac ccggcgctcg ttccccaccc 60
 cggccggccg cccatagcca gccctccgtc acctcttcac cgcaccctcg gactgccccca 120
 aggccccccgc cgccgctcca ggcggcgca gccaccggccg ccggccggccgc ctctccttag 180
 tcgcccgcac gacgaccgcg tccacactcg aggtgcgcca gaactaccac caggactcag 240
 aggccgcccac caaccggccag atcaacctgg agctctacgc ctcctacgtt tacctgtcca 300
 tgtcttacta ctttggccgc gatgatgtgg ctttgaagaa ctttgccaaa tacttttttc 360

accaatctca	tgaggagagg	gaacatgctg	agaaaactgat	gaagctgcag	aaccaacgag	420
gtggccgaat	ctttcttcag	gatataaaga	aaccagactg	tgatgactgg	gagagcggc	480
tgaatgcaat	ggagtgtgca	ttacatttgg	aaaaaaatgt	gaatcagtca	ctactggaac	540
tgcacaaact	ggccactgac	aaaaatgacc	cccatttgg	tgacttcatt	gagacacatt	600
acctgaatga	gcaggtgaaa	gccatcaaag	aattgggtga	ccacgtgacc	aacttgcgc	660
agatgggagc	gcccgaatct	ggcttggcg	aatatcttt	tgacaagcac	accctggag	720
acagtgataa	tgaaagctaa	gcctcggct	aatttcccc	tagccgtgg	gtgacttccc	780
tggtcaccaa	ggcagtgc	catgtttgg	gtttcctta	cctttctat	aagttgtacc	840
aaaacatcca	cttaagttct	ttgatttgt	ccattccttc	aaataaagaa	atttggtaaa	900
aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa			938

<210> 307
 <211> 1281
 <212> DNA
 <213> Homo sapiens

<400> 307	gcgtgatgtc	tcacagaaag	ttctccgctc	ccagacatgg	gtccctcg	ttcctgcctc	60
	ggaagcgcag	cagcaggcat	cgtggaaagg	tgaagagctt	ccctaaggat	gaccatcca	120
	agccggtcca	cctcacagcc	ttcctggat	acaaggctgg	catgactcac	atcgtgcgg	180
	aagtcgacag	gccggatcc	aaggtgaaca	agaaggaggt	ggtggaggct	gtgaccattg	240
	tagagacacc	accatgg	ttgtggca	ttgtggcta	cgtggaaacc	cctcgaggcc	300
	tccggacctt	caagactgtc	tttgctgagc	acatcagtga	tgaatgcaag	aggcg	360
	ataagaattt	gcataaatct	aagaagaagg	cctttacaa	gtactgcaag	aaatggcagg	420
	atgaggatgg	caagaagcag	ctggagaagg	acttcagcag	catgaagaag	tactgccaag	480
	tcatccgtgt	cattgcccac	acccagatgc	gcctgcttcc	tctgcgccag	aagaaggccc	540
	acctgatgga	gatccaggtg	aacggaggca	ctgtggccga	gaagctggac	tggcccg	600

agaggcttga	gcagcaggta	cctgtgaacc	aagtgtttgg	gcaggatgag	atgatcgacg	660
tcatcggtt	gaccaagggc	aaaggctaca	aaggggtcac	cagtcgttgg	cacaccaaga	720
agctgccccg	caagacccac	cgaggcctgc	gcaagggtggc	ctgtattggg	gcatggcatc	780
ctgctcgtgt	agccttctct	gtggcacgcg	ctgggcagaa	aggctaccat	caccgcactg	840
agatcaacaa	gaagatttat	aagattggcc	agggctacct	tatcaaggac	ggcaagctga	900
tcaagaacaa	tgcctccact	gactatgacc	tatctgacaa	gagcatcaac	cctctgggtg	960
gcttgtcca	ctatggtaa	gtgaccaatg	actttgtcat	gctgaaaggc	tgtgtggtgg	1020
gaaccaagaa	gcgggtgctc	accctccgca	agtccttgct	ggtgcagacg	aagcggcggg	1080
ctctggagaa	atttgcattt	aagttcattt	acaccaccc	caagtttggc	catggccgct	1140
tccagaccat	ggaggagaag	aaagcattca	tgggaccact	gaagaaagac	cgaattgcaa	1200
aggaagaagg	agcttaatgc	caggaacaga	ttttgcagtt	ggtggggtct	caataaaatt	1260
attttccact	aaaaaaa	a				1281

<210> 308
 <211> 1698
 <212> DNA
 <213> Homo sapiens

<400> 308	gtttgaagca	aacaggcagc	gchgacaaat	ggcggtcgct	cgtgcagctt	tggggccatt	60
	ggtgacgggt	ctgtacgacg	tgcaggctt	caagtttggg	gacttcgtgc	tgaagagcgg	120
	gcttcctcc	cccatctaca	tcgatctgcg	ggcatcg	tctcgaccgc	gtcttctgag	180
	tcaggttgca	gatattttat	tccaaactgc	ccaaaatgca	ggcatcagtt	ttgacaccgt	240
	gtgtggagtg	ctttatacag	cttgcattt	ggctacagtt	atctgttcaa	ccaatcaa	300
	tccaaatgctt	attagaagga	aagaaacaaa	ggattatgga	actaagcg	ttgtagaagg	360
	aactattaat	ccaggagaaa	cctgttaat	cattgaagat	gttgcacca	gtggatctag	420

tgttttggaa actgttgagg ttcttcagaa ggagggcttg aaggtcactg atgccatagt 480
gctgttggac agagagcagg gaggcaagga caagttgcag gcgcacggga tccgcctcca 540
ctcagtgtgt acattgtcca aaatgctgga gattctcgag cagcagaaaa aagttgatgc 600
tgagacagtt gggagagtgta agaggttat tcaggagaat gtctttgtgg cagcgaatca 660
taatggttct ccccttctta taaaggaagc acccaaagaa ctcagcttcg gtgcacgtgc 720
agagctgccc agatccacc cagttgcattc gaagcttctc aggcttatgc aaaagaagga 780
gaccaatctg tgtctatctg ctgatgtttc actggccaga gagctgtgc agctagcaga 840
tgcttagga cctagtatct gcatgctgaa gactcatgta gatatttga atgattttac 900
tctggatgtg atgaaggagt tgataactct ggcaaaatgc catgagttct tgatatttga 960
agaccggaag tttgcagata taggaaacac agtaaaaaag cagttatgaa gaggtatctt 1020
taaaatagct tcctggcag atctagtaaa tgctcacgtg gtgccaggct caggagttgt 1080
gaaaggcctg caagaagtgg gcctgcctt gcatggggg tgcctcctta ttgcggaaat 1140
gagctccacc ggctccctgg ccactgggaa ctacactaga gcagcggta gaatggctga 1200
ggagcactct gaatttggttt ttgggtttat ttctggctcc cgagtaagca tgaaaccaga 1260
atttcttcac ttgactccag gagttcagtt ggaagcagga ggagataatc ttggccaaca 1320
gtacaatagc ccacaagaag ttattggcaa acgaggttcc gatatcatca ttgttaggtcg 1380
tggcataatc tcagcagctg atcgtctgga agcagcagag atgtacagaa aagctgcttg 1440
ggaagcgtat ttgagtagac ttgggtttt agtgcttcag atacatttt cagataacaat 1500
gtgaagacat tgaagatatg tggcccctg aaagtcaactg gctggaaata atccaattat 1560
tcctgcttgg attcttccac agggcctgtg taagaatggg ttctggagtt ctcatggct 1620
tttaggaaata ttgagtaatt tgtaatcacc gcattgatac tataataagt tcattcttaa 1680
aaaaaaaaaa aaaaaaaaaa 1698

<211> 1102
<212> DNA
<213> Homo sapiens

<400> 309

gttataaaatg gttataaaagc tcctgttact catattagtt atttacatca aaaagctttt 60
agaaaaatggt acgaggtaac caattcttgt catggtaaaa tctgatttag taaccaagca 120
gtttactat tctggtgctg cttcataaca aaaatgaaaaa gctgcatgca tctacagcag 180
gcatggattg tttatgtcgt atgatatcct ttattaagta agttcactta tagtatttct 240
ataattttagt tcattgccgt aatagagcca tggaaat gcactgattt catgttattt 300
tggcaagaat atcctaaatg tcattaaaat cctccaacat gatggatcta cttatggct 360
tgttggta catgacaaat taacattctt atagttacat ctggaaatga gcatttggaaa 420
tagataatcc tttaagcctt gtggcaaaat ttttggct tttgttaac ttggaaaggt 480
tattatgcac taacctttt tggtgctaa ttagggtta aatacagaaaa caagatttca 540
aataaaaactg tcttggcag tggtaataa gcataatgg aagtagagtt gtataactttt 600
tcataagatg tttggaaatt ttttcctga agtaataatt tattccacat ctacatcagt 660
gaaagctatc tacctatcct gagtctatct taaaggaaaa aaagaaaaaa accttatctc 720
ttgcccttat tttgaatttt ccactcttc attaatttgt tttaagctcc gtgttggaaa 780
aaagggttag tgcattttaa attgaccttc atacgctttt aaaataagac aaatctactt 840
gataatgtac cttaatttga tctcaagttt tataaaacca ataaatttgt gttactgcag 900
tagtaatctt atgcacacgg tgatttcatg ttatatatgc aaagtaggca actgtttct 960
tagttacaga agttcaagc ttcaactttt tgcagtagaa acaaaagtag gctacagtct 1020
gtgccatgtt gatgtacagt ttctgaaatt gtttacaag actttgataa taaaaccctt 1080
aaacttaaaaa aaaaaaaaaa aa 1102

<210> 310
<211> 519

<212> DNA
 <213> Homo sapiens

<400> 310
 tcaaaagtca aggcatcatt taaaataatc tgatttcaga caaatgctgt gtggaaacat 60
 ctatcctata gatcatccta ttcttatgtg tctttggta tcagatcaat tacagaataa 120
 ttgtgttgtg atattgtgtc ctaaattgct cattaatttt tatttacaga ttgaaaaaga 180
 gggaccgtgt aaagaaaatg gaaaataaaat atcttcaaa gactcttta gataaacacg 240
 atgaggcaaa atcaggttca ttcattcaac gatagttct aaacagtact taaatagcgg 300
 ttggaaaacg tagccttcat tttatgattt tttcatatgt gaaatctat tacatgtaat 360
 acaaaaacaaa catgtatgtt gaaggcggtc agatttctt gagaaatctt ttagatgtt 420
 attttatgga aattaaaatc agaattaaat gctaaaaaaaaaaaaaaaaaaaaaaaaaaaa 480
 taaaaaaaaa aaaaaataaa aaaaaaaaaa aaaaaaaaaa 519

<210> 311
 <211> 2335
 <212> DNA
 <213> Homo sapiens

<400> 311
 ccgaggtggc tgctggtggg ggctcctggg acgacaggct gcgcaggctc atctccccca 60
 acctgggggt cgtgttcttc aacgcctgctg aggccgcgtc gcggctggcg cgccgcgagg 120
 atgaggcgga gctggcgctg agcctcctgg cgcaagctggg catcacgcct ctgccactca 180
 gcccggccc cgtgccagcc aaaccacccg tgctttcgaa gaagatgggc gtggccggc 240
 tggacatgtt tggctgcac ccgcctccg ccggcgccga ggcacgctg gcctctgtgt 300
 ggcctcgct ggtgtggcac cccgccccggc ccggcgagaa ggtggtgccgc gtgctgttcc 360
 ccgggttgcac cccgccccggc tgccctcctgg acggcctggg ccgcctgcag cacttgaggt 420
 tcctgcgaga gcccgtggtg acgccccagg acctggaggg gcccggccga gcccggagca 480
 aagagagcgt gggctcccg gacagctcga agagagaggg cctcctggcc acccacccta 540

gacctggcca ggagcgccct ggggtggccc gcaaggagcc agcacggct gaggccccac 600
gcaagactga gaaagaagcc aaggccccc gggagttgaa gaaagacccc aaaccgagtg 660
tctccggac ccagccgcgg gaggtgcgcc gggcagcctc ttctgtgccc aacctaaga 720
agacgaatgc ccaggcggca cccaagcccc gcaaagcgcc cagcacgtcc cactctggct 780
tcccgcggt ggcaaatgga ccccgcagcc cgcccagcct ccgatgtgga gaagccagcc 840
cccccagtgc agcctgcggc tctccggcct cccagctggt ggccacgccc agcctggagc 900
tggggccgat cccagccggg gaggagaagg cactggagct gcctttggcc gccagctcaa 960
tcccaaggcc acgcacaccc tcccctgagt cccaccggag cccgcagag ggcagcggc 1020
ggctgtcgct gagcccactg cggggcgggg aggccgggcc agacgcctca cccacagtga 1080
ccacacccac ggtgaccacg ccctcaactac ccgcagaggt gggctccccg cactcgaccg 1140
aggtggacga gtccctgtcg gtgtcctttg agcaggtgct gccgccatcc gcccccacca 1200
gtgaggctgg gctgagcctc ccgctgcgtg gccccgggc gcggcgctcg gttccccac 1260
acgatgtgga cctgtgcctg gtgtcaccct gtgaatttga gcatcgcaag gcggtgccaa 1320
tggcacccggc acctgcgtcc cccggcagct cgaatgacag cagtccccgg tcacaggaac 1380
ggcaggtgg gctggggcc gaggagacgc cacccacatc ggtcagcgag tccctgcccc 1440
ccctgtctga ctcggatccc gtgcccctgg ccccccggc ggcagactca gacgaagaca 1500
cagaggcctt tggagtccct cgccacgacc cttgcctga cccctcaag gtccccccac 1560
cactgcctga cccatccagc atctgcattgg tggaccccgaa gatgctgccc cccaaagacag 1620
cacggcaaac ggagaacgtc agccgcaccc ggaagccct ggcccgcccc aactcacgct 1680
ctgcccccc caaagccact ccagtggctg ctgccaaaac caagggctt gctgggtgggg 1740
accgtgccag ccgaccactc agtgcgggaa gtgagccctg tgagaaggaa ggccgggcac 1800
ccctgtccag aaagtccctca acccccaaga ctgccactcg aggcccgtcg ggtcagcca 1860
gcagccggcc cgggggtgtca gccacccac ccaagtcccc ggtctacctg gacctggct 1920

acctgcccag cgggagcagc gcccacctgg tggatgagga gttcttccag cgcgtgcgcg 1980
cgctctgcta cgtcatcagt ggccaggacc agcgcaagga ggaaggcatg cgggcccgtcc 2040
tggacgcgct actggccagc aagcagcatt gggaccgtga cctgcaggtg accctgatcc 2100
ccactttcga ctcggtggcc atgcatacgt ggtacgcaga gacgcacgcc cggcaccagg 2160
cgctggcat cacggtgttg ggcagcaaca gcatggtgtc catgcaggat gacgccttcc 2220
cggcctgcaa ggtggagttc tagccccatc gccgacacgc cccccactca gcccagcccg 2280
cctgtcccta gattcagcca catcagaaat aaactgtgac ttccaaaaaaaaaaaaa 2335

<210> 312
<211> 1027
<212> DNA
<213> Homo sapiens

<400> 312
ggggcggcgg gttggtctac gctgtgcgcg gcggacgtcg gaggcagcgg ggagcggagc 60
ggggccgccg gggcctctcc agggccgcag cggcagcagt tgggcccccc gccccggccg 120
gcggaccgaa gaacgcagga agggggccgg ggggacccgc ccccgccgg ccgcagccat 180
gaactccaac gtggagaacc taccccgca catcatccgc ctggtgtaca aggaggtgac 240
gacactgacc gcagacccac ccgatggcat caaggtctt cccaacgagg aggacctcac 300
cgacctccag gtcaccatcg agggccctga ggggacccca tatgctggag gtctgttccg 360
catgaaactc ctgctggga aggacttccc tgcctccca cccaaaggct acttcctgac 420
caagatctc caccgaacg tggcgccaa tggcgagatc tgcgtcaacg tgctcaagag 480
ggactggacg gctgagctgg gcatccgaca cgtactgctg accatcaagt gcctgctgat 540
ccaccctaac cccgagtctg cactcaacga ggaggcgggc cgcctgctt tggagaacta 600
cgaggagtat gcagctcggg cccgtctgct cacagagatc cacggggcgc cggcgggccc 660
cagcggcagg gccgaagccg gtcggccct ggccagtggc actgaagctt cttccaccga 720

ccctggggcc	ccagggggcc	cgggaggggc	tgagggtacc	atggccaaga	agcatgctgg	780
cgagcgcgat	aagaagctgg	cggccaagaa	aaagacggac	aagaagcggg	cgctgcggcg	840
gctgttagtgg	gctctcttcc	tccttccacc	gtgaccccaa	cctctcctgt	cccctccctc	900
caactctgtc	tctaagttat	ttaaattatg	gctgggtcg	gggagggtac	agggggcact	960
gggacctgga	tttgttttc	taaataaaagt	tggaaaagca	aaaaaaaaaa	aaaaaaaaaa	1020
aaaaaaaa						1027

<210> 313
<211> 1068
<212> DNA
<213> Homo sapiens

<400> 313						
gcggagctt	ttactggta	cttggcctca	tggcggtccg	agttcgttc	gagaacaact	60
gtgagatcg	ctgcttgcc	aagctcacca	acacctactg	tctggtagcg	atcggaggct	120
cagagaactt	ctacagtgt	ttcgagggcg	agctctccga	taccatcccc	gtggtgacag	180
cgtctatcgc	cggctgccgc	atcatgggc	gcatgtgtgt	gggaaacagg	cacggctc	240
tggtacccaa	caataccacc	gaccaggagc	tgcaacacat	tcgcaacagc	ctcccagaca	300
cagtgcagat	taggcgggt	gaggagcggc	tctcagcctt	ggcaatgtc	accacctgca	360
atgactacgt	ggccttggtc	cacccagact	tggacaggga	gacagaagaa	attctggcag	420
atgtgctcaa	ggtggaagtc	ttcagacaga	cagtggccga	ccaggtgcta	gttaggaagct	480
actgtgtctt	cagcaatcag	ggagggctgg	tgcacccaa	gacttcaatt	gaagaccagg	540
atgagctgtc	ctctcttctt	caagtcccc	ttgtggcg	gactgtgaac	cgaggcagt	600
aggtgattgc	tgctggatg	gtggtaatg	actggtgtgc	tttctgtggc	ctggacacaa	660
ccagcacaga	gctgtcagt	gtggagagt	tcttcaagct	gaatgaagcc	cagcctagca	720
ccattgccac	cagcatgcgg	gattccctca	ttgacagcct	cacctgagtc	accttccaag	780
ttgttccatg	ggctcctggc	tctggactgt	ggccaacctt	ctccacattc	cgcccaatct	840

gtaccggatg ctggcaggga ggtggcagag agctcactgg gactgagggg ctgggcaccc 900
aaccctttc cacctgtgct tatcgctgg atctatcatt actgcaaaaa cctgctctgt 960
tgtgctggct ggcaggccct gtggctgctg gctgagggtt ctgctgtcct gtgccacccc 1020
attaaagtgc agttccctcc ggaaaaaaaaaaaaaaa 1068

<210> 314
<211> 810
<212> DNA
<213> Homo sapiens

<400> 314
tgcaaataatc caagaagagg aagttgtcg ctgatggcat cttcaaagct gaactgaatg 60
agtttcttac tcgggagctg gctgaagatg gctactctgg agttgaggtg cgagttacac 120
caaccaggac agaaatcatt atcttagcca ccagaacaca gaatgttctt ggtgagaagg 180
gccggcggat tcgggaactg actgctgtag ttcagaagag gtttggctt ccagagggca 240
gtgttagagct ttatgctgaa aaggtggcca ctagaggtct gtgtgccatt gcccaggcag 300
agtctctgcg ttacaaactc ctaggaggc ttgctgtgcg gagggcctgc tatggtgtgc 360
tgcggttcat catggagagt gggccaaag gctgcgaggt tgtggtgtct gggaaactcc 420
gaggacagag ggctaaatcc atgaagttt tggatggcct gatgatccac agcggagacc 480
ctgttaacta ctacgttgac actgctgtgc gccacgtgtt gctcagacag ggtgtgtgg 540
gcatcaaggt gaagatcatg ctgccctggg acccaactgg taagattggc cctaagaagc 600
ccctgcctga ccacgtgagc attgtggaac ccaaagatga gatactgccc accacccca 660
tctcagaaca gaagggtggg aagccagagc cgcctgccat gccccagcca gtccccacag 720
cataacaggg tctccttggc agctgttattc tggagtctgg atgttgctct ctaaagacct 780
ttaataaaat tttgtacaaa gaaaaaaaaaa 810

<210> 315

<211> 2505
 <212> DNA
 <213> Homo sapiens

<400> 315
 cgtttgcacc tcgctgctcc agcctctggg ggcgcattcca accttccagc ctgcgacactg 60
 cgggagaaaaaaa aaaatttactt attttcttgc cccatacata ccttgaggcg agcaaaaaat 120
 taaattttaa ccatgaggga aatcgtgcac atccaggctg gtcagtgtgg caaccagatc 180
 ggtgccaagt tctgggaggt gatcagtgtat gaacatggca tcgacccac cggcacctac 240
 cacggggaca ggcacctgca gctggaccgc atctctgtgt actacaatga agccacaggt 300
 ggcaaatatg ttcctcgtgc catcctggtg gatctagaac ctgggaccat ggactctgtt 360
 cgctcagggtc ctttggcca gatctttaga ccagacaact ttgtatttgg tcagtctggg 420
 gcaggttaaca actggggccaa aggccactac acagagggcg ccgagctggc tgattctgtc 480
 ctggatgtgg tacggaagga ggcagagagc tgtgactgcc tgcagggctt ccagctgacc 540
 cactcactgg gcggggcac aggctctgga atgggcactc tccttattcag caagatccga 600
 gaagaatacc ctgatcgcat catgaataacc ttcaagtgtgg tgccttcacc caaagtgtct 660
 gacaccgtgg tcgagcccta caatgccacc ctctccgtcc atcagttggc agagaatact 720
 gatgagacct attgcattga caacgaggcc ctctatgata tctgcttccg cactctgaag 780
 ctgaccacac caaccctacgg ggatctgaac caccttgtct cagccaccat gagtggtgtc 840
 accacctgcc tccgttccc tggccagctc aatgctgacc tccgcaagtt ggcagtcaac 900
 atggtcccct tcccacgtct ccatttcttt atgcctggct ttgcccctct caccagccgt 960
 ggaagccagc agtatcgagc tctcacagtg cccgaactca cccagcaggt ctgcgtgcc 1020
 aagaacatga tggctgcctg tgaccccccgc cacggccgat acctcaccgt ggctgctgtc 1080
 ttccgtggtc ggatgtccat gaaggaggtc gatgagcaga tgcttaacgt gcagaacaag 1140
 aacagcagct actttgtgga atggatcccc aacaatgtca agacagccgt ctgtgacatc 1200
 ccacctcgtg gcctcaagat ggcagtcacc ttcattggca atagcacagc catccaggag 1260

ctcttcaagc gcatctcgga gcagttcaact gccatgttcc gccggaaggc cttcctccac	1320
tggcacacag gcgagggcat ggacgagatg gagttcacccg aggctgagag caacatgaac	1380
gacctcgctc ctgagtatca gcagtaccag gatgccaccg cagaagagga ggaggattc	1440
ggtgaggagg ccgaagagga ggcctaaggc agagccccca tcacctcagg cttctcagtt	1500
cccttagccg tcttactcaa ctgcccctt cctctccctc agaatttgc tttgctgcct	1560
ctatcttgc ttgttttt tcttctgggg ggggggtcta gaacagtgcc tggcacatag	1620
taggcgctca ataaataactt gtttgtgaa tgtctcctct ctcttccac tctggaaac	1680
ctaggttctt gccattctgg gtgaccctgt atttctttctt ggtgccattt ccattgtcc	1740
agttaatact tcctcttaaa aatctccaag aagctgggtc tccagatccc atttagaacc	1800
aaccagggtgc tgaaaacaca ttagataat ggccatcatc ctaagccaa agtagaaaat	1860
ggtagaaggt agtgggtaga agtcactata taaggaaggg gatgggattt tccattctaa	1920
aagttttgga gaggaaatc caggctttaa aagtcactaa atttctaagt atgtccattt	1980
cccatctcag cttcaaggga ggtgtcagca gtattatctc cactttcaat ctccctccaa	2040
gctctactct ggaggagtct gtcccactct gtcaagtggaa atcctccct ttccaaactct	2100
acctccctca ctcagctcct ttcccctgat cagagaaagg gatcaagggg gttgggaggg	2160
gggaaagaga ccagccttgg tccctaagcc tccagaaacg tcttcttaat ccccacctt	2220
tcttactccc aaaaaagaat gaacacccct gactctggag tggtgtatac tgccacatca	2280
gtgtttgagt cagtccccag aggagagggg aaccctccctc catctttttt gcaacatctc	2340
atttcttcct ttgctgttg ctccccccct cacacacttg gttttgttct atcctacatt	2400
tgagatttctt atttatgtt gaacttgctg cttttttca tattgaaaag atgacatcgc	2460
cccaagagcc aaaaataaaat gggattgaa aaaaaaaaaa aaaaa	2505

<210> 316

<211> 1588

<212> DNA
<213> Homo sapiens

<400> 316
gtgccgaga gatggatgag cagattagac tcatggacca gaacctgaag tgtctgagtg 60
ctgctgaaga aaagtactct caaaaagaag ataaatatga ggaagaaatc aagattctta
ctgataaact caaggaggca gagacccgtg ctgagttgc tgagagatcg gtagccaagc 120
tggaaaagac aattgatgac ctggaagata aactgaaatg caccaaagag gagcacctct 180
gtacacaaag gatgctggac cagaccctgc ttgacctgaa tgagatgttag aacgccccag 240
tcccaccctg ctgctgctcc tccctctgac ccagactccg cctgaggcca gcctgcggga 300
agctgacctt taactgaggg ctgatctta actggaaggc tgctttctcc tttcaccacc 360
ccctccttcc ctgtgtcttt ttcgccaaac tgtctctgcc tcttcccgga gaatccagct 420
gggctagagg ctgagcacct ttggaaacaa catttaaggg aatgtgagca caatgcataa 480
tgtcttaaa aagcatgttg tcatgtacac atttgtaat taccttttt gttgtttgt 540
agcaaccatt tgaaaacat tccaaataat tccacagtcc tgaagcagca atcgaatccc 600
tttctcactt ttggaaaggtg acttttcacc ttaatgcata ttcccctctc catagaggag 660
aggaaaaggt gtaggcctgc cttaccgaga gccaaacaga gcccagggag actccgctgt 720
gggaaacctc attgttctgt acaaagtact agctaaacca gaaaggtgat tccaggagga 780
gttagccaaa caacaacaaa aacaaaaat gtgctgtca agtttcagc tttaagatat 840
ctttggataa tgttatttct atttttatt ttttcatta gaagttacca aattaagatg 900
gtaagacctc tgagacccaa attttgtccc atctctaccc cctcacaact gcttacagaa 960
tggatcatgt ccccccttatg ttgaggtgac cacttaattt ctttcctgcc tccttgaaag 1020
aaagaaaagaa agaagactgt gttttgccca ctgatttagc catgtgaaac tcatactcatc 1080
accctttctt gggtttgaag ctgctgtctc tagaagtgcc atctcaattt tgctttgtat 1140
cagtcagtgc tggagaaaatc ttgaatagct tatgtacaaa actttttaaa ttttatatta 1200
1260

tttgaaact ttgcttggg tttgtggcac cctggccacc ccatctggct gtgacagcct	1320
ctgcagtccg tgggctggca gtttgttgcat ctttaagtt tcctcccta cccagtcggc	1380
attttctggt aaggtttcta ggaggtctgt taggtgtaca tcctgcagct tattggctta	1440
aaatgtactc tcctttatg tggtctcttt gggccgatt gggagaaaga gaaatcaata	1500
gtgcaactgt tttgatactg aatattgaca agtgtcttt tgaaataaag aaccagtcggc	1560
tccaaaccctc aaaaaaaaaa aaaaaaaaaa	1588

<210> 317
 <211> 1831
 <212> DNA
 <213> Homo sapiens

<400> 317	
gttggaggact acgcgcggcc caggcctggg ccccccgcctg ctccaggccg cgctgggcct	60
tggcgggct ggggtggcact ggcctgcggg ccgggcggcg agcggggggc gcgggcgggc	120
ctggctgcag cccacgggcc gggagacggg tgtgcaggtg tacaacagcc tcaccggag	180
gaaggaaccc ctaatcgtgg cgcacgccga agccgcctcc tggatagct gtggaccaac	240
tgtatatgat catgcgcacc ttggccatgc ttgctcatat gtttagatttgc atatcattcg	300
aaggatccta accaagggtt ttggatgcag catagtcatg gtatgggta ttacagatgt	360
agatgataaa atcatcaaaa gagccaatga gatgaatatt tcccccgtt ccctcgccag	420
tctttatgag gaagacttca agcaggacat ggcagccctg aaggttctcc cacccacgg	480
gtacctgagg gtaaccgaaa atattcctca gataatttct ttcattgaag gaatcattgc	540
ttcgtggaa cgcttattca acggcaaaag gcaatgtcta ctgcgtctg aaagtctaga	600
ggagacaaag tatggcaaaa ttggtcggcg tggccctgg tccagtcgg agaccagcgg	660
acttctgaca agccgtcatg ccaatgactt cgcgcgtgg aaggccggca aacccagga	720
ggtgttctgg gcctccctt ggggacccgg gaggccggc tggcacatcg agtgcgtcg	780
catcgctagt atggatatttgc gaagtcaact ggatatccat tcaggtggga tagatttagc	840

ttttccacat catgagaacg aaattgcaca gtgcgaagtc tttcatcagt gcgagcagtg	900
gggaaattat tttctgcatt ctggcattt gcacgccaaa ggcaaagaag aaaaaatgtc	960
caaatcatta aagaactaca ttactattaa ggacttctg aagaccttt ccccgatgt	1020
cttccggttc ttctgcctgc ggagcagcta ccgctcagcc atcgactaca gtgacagcgc	1080
catgctccaa gctcagcagc tgctcctggg gctgggtct ttcctggagg acgcacgtgc	1140
ctacatgaag gggcagctgg cctgcccgtc cgtcagggaa gcgatgctgt gggagaggct	1200
ctccagcacc aagaggggccg tgaaggcggc cttggcagat gatttgaca cacccaggg	1260
ggttcatgcc atcctggcc ttgcacacca cggaaatgga cagtcaggg cgtccctgaa	1320
ggaacctgaa gggccgagaa gtcctgctgt gtttgggcc atcatcttt actttgaaca	1380
gtttttgaa actgttggaa tttctctggc aaatcaacag tacgtttcag gagacggcag	1440
cgaggctacc ttgcatggtg tggggacga gctgggtcgg ttccggcaga aggtccggca	1500
gtttcgctg gccatgcccgg aggccacggg ggacgccccgg cggcagcagc tcctagaaag	1560
gcagccccctg ctggaagcat gcgacaccct ggcggggggc ctgactgccc acggcatcaa	1620
catcaaggac agaagcagta caacatccac gtggaaactg ctggatcaaa ggacaaaaga	1680
ccaaaaatca gcgggctgag gatggagcac agccatgaac ctgctcacga caagacgcac	1740
ccatgcttct cagggtcaag gctttatgtt aaagcttcct gtcggggctg ctaggtcagc	1800
attaaagtaa ggcaacccaaa aaaaaaaaaa a	1831

<210> 318
 <211> 3476
 <212> DNA
 <213> Homo sapiens

<400> 318	
cccgccgctg aggaaggctg tagtgtcggg gccgaagcgg acagggattt ggaggagtt	60
ctggaaagat gccctttcg cttcccaaga gaagttttc caggaactat tcgacagtga	120

actggcttcc caagccactg cgaggttcga gaaggcaatg aaggagttgg ctgaggaaga	180
accccacctg gtggagcagt tccaaaagct ctcagaggct gcagggagag tggcagtga	240
tatgacctcc caacaagaat tcacttcttgcctaaaggaa acactaagtg gattagccaa	300
aatgccact gacccatcaga actccagcat gtcggaagaa gagctgacca aggccatgga	360
ggggcttaggc atggacgaag gggatgggaa aggaaacatc ctccccatca tgcagagtat	420
tatgcagaac ctactctcca aggatgtgct gtacccatca ctgaaggaga tcacagaaaa	480
gtatccagaa tggttgcaga gtcatcgaa atctctacccctccagcagcgttgcata	540
tcaggagcag cacagcgtca tggccaaat atgtgagcag tttgaggcag agaccccccac	600
agacagtgaa accactcaaa aggctcgaaa tgagatgggt ctggatctta tgcagcagct	660
acaagattta ggccatcctc caaaagagct ggctggagag atgcctcctg gcctcaactt	720
tgacctggat gccctcaatc tttcgggccc accaggtgcc agtggtaac agtgtctgat	780
catgtgaaac acaacacgtt ttccctctctg agtcccagct atggggaaaca tctggagtca	840
gcagaaccat tgggacctga ggcaggagtg tcacctgcgg gagaagtctg cccgctgccc	900
tctgtcatcc cattcaagat tgtgccatac cagctgaggt tttcctctg tctctctagg	960
aatagggtct gttcacagg ccattctgt gaaccctact ccattgtgg ttctgccact	1020
atcaaagttc cagctacctg caaggtgaag gaaggcatcc cttttgggc atgcactttc	1080
tttcctttct caaaataatg ttatatgtgg ccacactgat gttcacctt acgtccaggg	1140
tctttgtgcc ttgtctctac tccctctctt ggatctgggg aggaggggca gagacctggg	1200
actctgtatt tctatagttc tcctggcaga gcctttgaga atggggagaa acagcctggg	1260
ctggggctac aggtctgtca ctatgtctc ttgccttcag acagaccatt ctgaattctc	1320
taaagggaaa gggctttgc atctaatac aatagagttt aaagagaggc cttaggattc	1380
tcctctctct aggtgctgag ccctcacctc cctgtttccag gctgagaact caaatggta	1440
ccctgcttct tcctacaatg ctgtgtgata tgggtgaacc cagccctga ctttcctcta	1500

tcccctgccc atcctccctt ttacccctc tctttttaa acacctgtt atcccaacct 1560
tttgagctc aagctgtgat aaagaaggc ccatcctatt tcccctcatc tagtccattt 1620
acgattctca ctgactcccc gtctcctgg cagacacaaa taaacccagt gtcaggtcta 1680
ggaaattaaat ggctattctt cccagatac attctggctt atttgagata catgattctc 1740
ttagaattcct gtcccttggt tcagggaaatg agcttgaaa aggagtaggg gtatagctg 1800
ggccctttt cctgcaaggc cccatggggc agaatataat aaatattctg agtggaggat 1860
gtggtctttt tctgatcttc ctcagcttcc gtaagttgca gagtgaggta tattaggaga 1920
ctagttctac acaatattgt aatgctgggt tccatcaaca cccaccttcc acaactcagt 1980
ctgcacctca gttggcaaag gagactggat ggccatctt cctcatgttc cttgagttat 2040
ttcaatgttag aaagcccttc aagtggattt atatttaac ctttacatt attgttattt 2100
atgttagtaa tatattgtta tgtttctaa attattttc tttaagctga cgtggctttt 2160
tttctgtggc tcccagtggg tctacggacc ttggctgaca tatgttggta ggtactctgg 2220
tcagctcagc tggctgtcct ggttcactca gaagataagt ctctccaaag caaattcaca 2280
tgcattatga gtcgcatttga gcttctgaca tgtaacttgc cccgaggta aaactttca 2340
ccccttgaag accttacatg ttttatggta ttgggtgagga aggaaatgtt ctcaaggct 2400
caggctattt gggaaattcc aactcctata ctttaccaga gcatggaaga gcccagatct 2460
gaatgtaaaa cgtctctgtt ctgccagaga tggaaaaat acaggtatac ttgtgatata 2520
/ gtcatggggc ttcaagtgtca ctattttctc cttaaagctc cagccaaaaa ctggacaagg 2580
atagagagga ggagggaga acaaaagagc ctttctctat gaaccttgc cttctgtcc 2640
taccagttt cttttacaga ttctcaacttc tgcttagccta gccaggcctt actccaggaa 2700
tctaaataga tgccctagtc cactttatct ttgttcccaa ggcactcatt tttatgttga 2760
ttttgattga atgtgagcag gttgacactca ggtcacactt tgttccaaaa acttttgaa 2820
ttattccagg acttgtggtg gagttatggt actctagggc agtctttctc aaactatgta 2880

tggtaaagga ccaggaaaa ttttccag tccttcaactt atcaatatgc attcctattg	2940
ccgatgacag gtatggagtt cacactgtgt gctgccgacc cggcaagttt gacagcaccc	3000
aaactggcca gactgttctg taggttaagt ccattgatca tgtacttgga tatcacagca	3060
acattgaaat gctaaaaagt tttaaacac tctcaatttc taattcacca tgtcacagac	3120
tggtaaaaaa aaaaaaaagg tgttcaactga ccagcacaag tctgcagatc atctttgagt	3180
agcactgttt tggggccctc ggtctctctg aagaccctag cagaactgat acctacctgt	3240
atctcttgtt ctctcctatt ttagttcac ttccagagaa cttgttcttc agcaagaatg	3300
tgtcactagt aaggacatct ctagcatttc tctagccttc ctttctgct gctaaaaat	3360
aatcgttaca aagcttaggt ttaagctgta tatgaaatat ttatgcgact ctcaaacttt	3420
aaaggagttg ctccttggtt ccaaaattaa atgtgttaga taaaaaaaaa aaaaaaa	3476

<210> 319
 <211> 1665
 <212> DNA
 <213> Homo sapiens

<400> 319	
caacgacggc agccccggc gctactacct gaaggagtcc aggggcagcc ggcggtggt	60
cctcttcctg gaaggcggct ggtactgctt caaccgcgag aactgcgact ccagatacga	120
caccatgcgg cgcctcatga gctccggga ctggccgcgc actcgcacag gcacagggat	180
cctgtcctca cagccggagg agaacccta ctggtgaaac gcaaacaatgg tttcatccc	240
ctactgctcc agtgatgttt ggagcggggc ttcatccaag tctgagaaga acgagtacgc	300
tttcatgggc gccctcatca tccaggaggt ggtgcgggag cttctggca gagggctgag	360
cggggccaag gtgctgctgc tggccggag cagcgcgggg ggcaccgggg tgctcctgaa	420
tgtggaccgt gtggctgagc agctggagaa gctgggctac ccagccatcc aggtgcgagg	480
cctggctgac tccggctggt tcctggacaa caagcagtat cgccacacag actgcgtcga	540
cacgatcacg tgcgcgcccc caaggccat ccggccgtggc atcaggtact ggaacggggt	600

ggccccggag cgctgccgac gccagttcca ggagggcgag gagtggaaact gcttcttgg 660
ctacaaggtc tacccgaccc tgcgctgccc tgtgttcgtg gtgcagtggc tgtttgcga 720
ggcacagctg acggtgacca acgtgcaccc gacggggcag ccgggtgcagg agggcctgcg 780
gctgtacatc cagaacctcg gccgcgagct gcgccacaca ctcaaggacg tgccggccag 840
ctttgcccccc gcctgcctct cccatgagat catcatccgg agccactgga cggatgtcca 900
ggtgaagggg acgtcgctgc cccgagcact gcactgctgg gacaggagcc tccatgacag 960
ccacaaggcc agcaagaccc ccctcaaggg ctgccccgtc cacctgggtgg acagctgccc 1020
ctggcccccac tgcaacccct catgccccac cgtccgagac cagttcacgg ggcaagagat 1080
aacacgtggcc cagttcctca tgcacatggg ctgcacatg cagacgggtgg cccagccgca 1140
gggactggag cccagtgagc tgctggggat gctgagcaac ggaagctagg cagactgtct 1200
ggaggaggag cgggcactga ggggcccaga caccgcgtc cccagtgcca cctcaccccc 1260
caccagcagg ccctcccgtc tttcgggac agggcccccag ccgtcccccc tgtctgggtc 1320
tgcccactgc ctcctgcggcc cggctttccc tgccccctctc ccacagccca gccagagaca 1380
agggacctgc tgtcatcccc atctgtggcc tgggggtcct tcctgacaac gagggggtag 1440
ccagaagaga agcactggat tcctcagtcc accagctcag acagcaccca ccggcccccac 1500
ccatcaagcc ctttatatt attttataaa gtgactttt tattacttta attttttaaa 1560
aaaaggaaaa taagaatata tcatgaatga tattgttttga taactttta aaaatgattt 1620
taaagagaca aaaaagaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 1665

<210> 320
<211> 1571
<212> DNA
<213> Homo sapiens

<400> 320
tgctgttgtg atgggtggtaa gggAACGGGC ctggctctgg cccctgacgc aggaacatgg 60

agctgatcca ggacacctcc cgcccgccac tggagtacgt gaagggggtc ccgctcatca	120
agtactttgc agaggcactg gggccctgc agagcttcca ggcccgccct gatgacctgc	180
tcatcagcac ctaccccaag tccggcacca cctgggttag ccagattctg gacatgatct	240
accagggtgg tgacctggag aagtgtcacc gagctccat cttcatgcgg gtgcccttcc	300
tttagttcaa agccccaggg attccctcag gnatggagac tctgaaagac acaccggccc	360
cacgactcct gaagacacac ctgcccctgg ctctgctccc ccagactctg ttggatcaga	420
aggtcaaggt ggtctatgtt gcccgcacacg caaaggatgt ggcagttcc tactaccact	480
tctaccacat ggccaagggtg caccctgagc ctgggacctg ggacagcttc ctggagaagt	540
tcatggtcgg agaagtgtcc tacggatcct ggtaccagca cgtgcaggag tgggtggagc	600
tgagccgcac ccaccctgtt ctctacctct tctatgaaga catgaaggag aaccccaaaa	660
gggagattca aaagatcctg gagttgtgg ggcactccct gccagaggag accgtggact	720
tcatggttca gcacacgtcg ttcaaggaga tgaagaagaa ccctatgacc aactacacca	780
ccgtccccca ggagttcatg gaccacagca tctccccctt catgaggaaa ggcatggctg	840
gggactggaa gaccacccctc accgtggcgc agaatgagcg cttcgatgcg gactatgcgg	900
agaagatggc aggctgcagc ctcagttcc gctctgagct gtgagagggg ctcctggggt	960
cactgcagag ggagtgtgcg aatcaaacct gaccaagcgg ctcaagaata aaatatgaat	1020
tgagggcctg ggacggtagg tcatgtctgt aatcccagca atttggaggc tgaggtggaa	1080
ggatcatttgc agcccaggag ttcgagacca acctgggcaa catagtgaga ttctgttaaa	1140
aaaataaaaat aaaataaaac caattttaa aaagagaata aaatatgatt gtgggccagg	1200
cagagtggct catgcctgta atcccagcaa tttgagaagt tgaggctaga ggatcactgg	1260
aggacaggag tttgggacca gcctgttcaa cattacaaga catcatccct acaaaaaattt	1320
gagaaaatta tctgtacgtg atgggtggca cctgttagtcc caactacttg acaagtgaag	1380
gcaggaggat cgccctgagcc agggaggtta tggctgcagt tggctgactg ggctaatcca	1440

ctcaagcctg agggacagag caaatcttgc ttgagaaaata aataaaatac aatttactta 1500
acataaaatta tgattcagga ccagtctggc caacatggtg aaaccccgta tctactaaaa 1560
aaaaaaaaa a 1571

<210> 321
<211> 1549
<212> DNA
<213> Homo sapiens

<400> 321
gctgggtcct tcggcaggag gaggaagatg gagcccagca ccgcggcccg ggcttgggcc 60
ctcttttgt tgctgctgcc cttgcttggc gcggtttgcg ccagcggacc ccgcaccc 120
gtgctgctgg acaaccta 180
gacccgggct ttgagctac attcaagacc gctgatgacc ccagcctgtc tctcataaag 240
tatgggaat tcctctatga caatctcatc atttctccc cttcggtaga agattttgga 300
ggcaacatca acgtggagac catcagtgcc tttattgacg gcggaggcag tgtgctggta 360
gctgccagct ccgacattgg tgaccctttt cgagagctgg gcagtgagtg cgggatttag 420
tttgacgagg agaaaacggc tgtcattgac catcacaact atgacatctc agaccttggc 480
cagcatacgc tcatcggtgc tgacactgag aacctgctga aggccccaaac catcggtgg 540
aaatcatctc taaatccat cctcttcga ggtgttggga tggtgccga tcctgataac 600
ccttggtgc tggacatcct gacggctct tccacccctt actccttctt cccggacaag 660
cctatcaccc agtatccaca tgcgggtggg aagaacaccc tcctcattgc tgggctccag 720
gccaggaaca atgcccgcgt catcttcagc ggctccctcg acttcttcag cgactccttc 780
ttcaactcag cagtgcagaa ggcggcgccc ggctccaga ggtattccca gacaggcaac 840
tatgaacttag ctgtggccct ctcccgctgg gtgttcaagg aggagggtgt cctccgtgt 900
gggcctgtgt cccatcatcg ggtggcgag acagccccac ccaatgccta cactgtcact 960
gacctagtgg agtatacat cgtgatccag cagctctcaa atggcaaatg ggtccccctt 1020

gatggcgatg acattcagct ggagttgtc cgcattgatc ctttgtgag gacccctg	1080
aagaagaaag gtggcaaata cagtgttcag ttcaagttgc ccgacgtgta tggtgtattc	1140
cagttaaag tggattacaa ccggcttaggc tacacacacc tgtactcttc cactcaggt	1200
tccgtgcggc cactccagca cacgcagtat gagcgcttca tcccctcgac ctaccctac	1260
tacgccagcg cttctccat gatgctgggg ctcttcatct tcagcatcgt cttttgcac	1320
atgaaggaga aggagaagtc cgactgaggg gctagagccc tctccgcaca gcgtggagac	1380
ggggcaggga ggggggttat taggattggt ggtttgttt tgctttgttt aaagccgtgg	1440
gaaaatggca caactttacc tctgtggag atgcaacact gagagccaag gggtgggagt	1500
tgggataatt tttatataaa agaagttttt ccacttgaa ttgctaaaa	1549

<210> 322
 <211> 2064
 <212> DNA
 <213> Homo sapiens

<400> 322	
ctttgctccc ctgcgcctt ctagtggcc gcctgggtt ggacttgtcc tgtggatgg	60
agaccctcca tacatgggt tcaaagggtcc tgggttattc ctggatctc aggacatctg	120
cctaccctca gtttcccag gcctcggtg gggaggcatc agatccctgg ccaacctgct	180
atccacccca ggtttagac ctctcttccc gtgagggAAC agagtagtag cttcattgt	240
ggcagattat ctgccttgcg ataaactta gtggcctccc tttctgtttt gccataatct	300
gcctcctccc ccactccat acccatctac aaagcagcct tgaaaataac caccctgtg	360
gttcagtgtg ggtcatgatc tgtcaatcca ggcttagtac atttccaaat ggaattacca	420
gaaggatggg catcaaactg ggaaaatgtat ttgggtggctt gctagccgtg ttccttttc	480
tcccaaggca ttcgttcaga tgtgcagtgt tggcagaccc agggatgcc atttacctgg	540
cccactggtc gagatttggt catccagga acttgggctt cagaaaagat gtttctggc	600

tttggaccag attctggctg gtctgtggtt tgcccccctt gccacaccca gtggctttca	660
ttgggctttt ttcctctagt tattgtcagg aacagtgggg aatggcaggt attgcatttg	720
gtgaacacac tggataactg gaatcagagc cgtgtgactg aggaaagagg cttcacagc	780
ttcaatgcag aatgggatga ttatctgccc tgaaacgaag gatgcttctt tgaggggagt	840
tgggaccaat actggaaaca gcaccgctcc tggcttctct ggcttgctt ctctctgaag	900
taatttagac ttcgtgaacc ttacatactg gctccatctg tatattggga gagcctgtcc	960
ctctcagcct cacagtagtg aagtaggaa gcatggagtc cacagtgttc tttgaaagaa	1020
tcaaggcacc aagtccatgc atttacattt ctctcttgag atcagtcctt ttgttagcag	1080
cctgcaattc tgaccacggc aaccaaaaat ttctgaccgt ggcaacccaa aatcaagcgc	1140
gagggaaacct gggggtttat ttggaggtgg gagaggatgt cccttctct ggtaggacta	1200
tgtctggcta cattgtcttt ccatttttt ctgattgtcc cttggccccc ctccctttc	1260
tggggcaca gagggcatgg caattttgtt tcctagctt ccatattcct actgcagtgc	1320
tttcttcaga atacttgttc agatcgattt cttggctgtg agggcaacca gctgcttcc	1380
tgtttcttta aaagtggatc ccacactgcc gtgtcctgca cagttagttc tgcgtttag	1440
aaaccatcta gcagtggta ctcagggagt ggcctctgct cggatgggg cctctgcaac	1500
atgaggattt ggggcttcta cgctgtgggg tcaaaggaga catcatgatc cctactggca	1560
gaaagagcag agccccagag tgggttccac ttacgggttc agtgtcttt ctgagatatt	1620
cctcggacc acatttaaat tctttttcat attgttgca taataattgc cttctagtg	1680
ctactttata ggactgagag gatttaaatg agataatcca ttttatggat ttaacacagc	1740
ctctggcaca agtctaaatg ttgcattgtaa gtgttaacta ttatactgga aagaaggctc	1800
agttccttga tttaggtgtg ggagaaaaat atatatataat tttgagacca gcccggcca	1860
acatggtaa actcatgtct acgaaaaata caaaagtttgc cttgggttg gtggcgcatg	1920
cctatagttt cagctactcg ggaggctgag acacaggaat cacttgaacc cgggaggcgg	1980

aggttgcagg gagccgagat cacaccactg cactccagcc tggtaacag agttagatac 2040
tgtctcaaaa aaaaaaaaaa aaaa 2064

<210> 323
<211> 1317
<212> DNA
<213> Homo sapiens

<400> 323
ggtaatctc tacttccta tactgccaaa gaatgtgagg aagaaatggg actctttgg 60
tatttattga tgcgactgta aattggtaca gtatttctgg agggcaattt gtaaaatgc 120
atcaaaagac taaaaatac ggacgtactt tgtgctggga actctacatc tagcaattc 180
tcttaaaac catatcagag atgcatacaa agaattataat ataaagaagg gtgttaata 240
atgatagtta taataataaa taattgaaac aatctgaatc ctttgcattt ggaggttaat 300
tatgtcttag ttataattag attgtgaatc agccaaactga aaatccttt tgcatattc 360
aatgtcctaa aaagacacgg ttgctctata tatgaagtga aaaaaggata tggtagcatt 420
ttatagact agtttgctt taaaatgcta tggaaatata caaaaaact agaaagaaat 480
atatataacc ttgttattgt atttggggga gggatactgg gataattttt attttcttg 540
aatcttcctg tgccttcaca ttttctaca gtgaatttaa tcaaatagta aagttgtgt 600
aaaaataaaa gtggatttag aaagatccag ttctgaaaa cactgttct gtaatgaag 660
cagaatttaa gttggtaata ttaaggtgaa tgcatttaa gggagttaca tctttattct 720
gctaaagaag aggatcattt atttctgtac agtcagaaca gtacttgggt ttgcaacagc 780
tttctgagaa aagcttaggtg tttaatagtt taactgaaag tttaactatt taaaagacta 840
aatgcacatt ttatggatc tgatattta aaaagtaatg tttgattctc ctttttatga 900
gttaaattat ttatcacgag ttggtaattt ttgctttta ataaagtggg agcttgctt 960
tttaactctt ttttattgt tattttatag aaatgctttt tggatccccgg gcacagttgc 1020
tcatccatgt aatcccagca ctgtgggagg ccgagacggg tggatcacaa ggtcaggaga 1080

tcgagaccat cctggctaat gcgttcaaac tccgtctctg ctaagaatac aaaaaattag 1140
ctggcgtgg tggggcac ctgttagtccc agctactcag gaggctgagg caggagaatg 1200
gtgtgaacct gggaggtgga gcttcagtg agcagagctt gcagtgagac gagcttgc 1260
cactgcactc cagcctggc aacagagtaa gactcagtct caaaaaaaaaa aaaaaaaaa 1317

<210> 324
<211> 1483
<212> DNA
<213> Homo sapiens

<400> 324
tttcaatct tttgatctc acgaccactt tttaaaaaat gtatatctt tttgtgtgt 60
tgttcttgtt gttgttgtt gttgagacag ggtcttgctc tgcccccag gctggagg 120
agtggcacta acgtggctca tgccgcctca acctcctaga ctcaagtgac cctccctcct 180
cagcctccca agtatctggg atcaaagg 240
atccatgtt gatgtacat ttctccatgt tgccaggct gtttcaa 300
aagcaagg 360
caccctccca aagtggggg attacaagta tgagccacca cacctggcca
ggaccactgg acactctaa aaatgatgaa agacttcatg gagaagctt 420
gattatagct atcaattgtt actgtattag acattaaaa gaaaatagaa atgaggaaaa 480
tgaatttatt taaaaatagt aaacccaaat acatgtgaac ataaatcaca ttttatgaa 540
aagatcacta tttccacaa taaaaattg agtttatgt agttttgag atctctt 600
tgtctggcat aatagaatac agctggattc tcatgtatgc ttctgcacaa tctttgtga 660
tttttttc tttttttt 720
agacggagtc ttgctctg 780
accaggctg gagtgcagtg
gtgccatctc agctcagtgc aacctccact gccgggttc aagcgattat cctgcctccc
gcatgaaatg gggtttgcc atgttggcc 840
ggcttgc 900
gaactcctga cctcaggtga
gccactgtgt ccggccctgt tgtggtatgt tgaagtataa aaagaaaaatc caggttcaca

cggatacata ttttaaatg gagaatattt ggaatagcct tttcagataa ttatggat	960
tcttcttga tactgtacaa aatttggcaa gtgatagttc cttcaaagat agctgcagtg	1020
tggaatctga aatccatca aggaagttt tgtactctgt taaactaaaa atccactgat	1080
ccgtttaca ctttatattt gtgaagagtg gtaactttt cccatgcattg attttgtat	1140
atcctgtatt ggtcatttgg aaaatactgg tttactgaat tatgcagttc ttccaaatat	1200
tgacacattt ctttatataa atatcaagtc acatttgtt atatcacaac tgatatcaga	1260
aaagtcccat ggttaatgca aatttcacaa aattctaattt tttccttggg atcttgaatt	1320
ttatcattgg caacaaatac agtttcctt gaaatgacag cctcactttt ttaattttt	1380
gagtgagaag atacctgcca aatattcaag tctgaatggc gattgcttac cagtcattct	1440
ttcatgttaa aatggtcttc ctccatttaa aaaaaaaaaaaa aaa	1483

<210> 325
 <211> 1067
 <212> DNA
 <213> Homo sapiens

<400> 325	
gacggtcatc gattacaacg gggAACGcac gctggatggt tttaagaaat tcctggagag	60
cggggccag gatggggcag gggatgatga cgatctcgag gacctggaag aagcagagga	120
gccagacatg gaggaagacg atgatcagaa agctgtgaaa gatgaactgt aatacgcaaa	180
gccagaccccg ggcgctgccc agaccctcg gggctgcac acccagcagc agcgcacgcc	240
tccgaaggct gcggcctcgc ttgaaggagg gcgtcgccgg aaacccaggg aacctctctg	300
aagtgacacc tcacccctac acaccgtccg ttcacccccc tctttttttt ctgttttcg	360
gtttttggaa agggatccat ctccaggcag cccaccctgg tggggcttgc ttccctgaaac	420
catgatgtac ttttcatac atgagttctgt ccagagtgc tgctaccgtg ttcggagtct	480
cgctgcctcc ctcccgccgg aggtttctcc tcttttgaa aattccgtct gtgggatttt	540
tagacatttt tcgacatcag ggtatggtt ccaccttggc caggcctcctt cggagaagct	600

tgtccccgt gtgggaggga cggagccgga ctggacatgg tcactcagta ccgcctgcag 660
tgtcgccatg actgatcatg gctcttgcattttggtaa atggagactt ccggatcctg 720
tcagggtgtc ccccatgcct ggaagaggag ctgggtggctg ccagccctgg gtcccccgcac 780
aggcctggc cttccccttc cctcaagcca gggctcctcc tcctgtcgtggctcattgt 840
gaccactggc ctctctacag cacggcctgt ggcctgttca aggcaaaacc acgacccttg 900
actcccggtt ggggaggtgg ccaaggatgc tggagctgaa tcagacgctg acagttcttc 960
aggcatttct atttcacaat cgaattgaac acattggcca aataaagttg aaattttccc 1020
ccccaa 1067

<210> 326
<211> 915
<212> DNA
<213> Homo sapiens

<400> 326
aggagccgca gggccgtagg cagccatggc gcccagccgg aatggcatgg tcttgaagcc 60
ccacttccac aaggactggc agcggcgcgt ggccacgtgg ttcaaccagc cggcccgtaa 120
gatccgcaga cgtaaggccc ggcaagccaa ggccgcgcgc atcgccccgc gccccgcgtc 180
gggtccccatc cggcccatcg tgcgctgccc cacggttcgg taccacacga aggtgcgcgc 240
cgccgcggc ttcagcctgg aggagctcag ggtggccggc attcacaaga aggtggcccg 300
gaccatcgcc atttctgtgg atccgaggag gcggaaacaag tccacggagt ccctgcagggc 360
caacgtgcag cggctgaagg agtaccgctc caaactcatc ctcttccccca ggaagccctc 420
ggcccccaag aaggagaca gttctgctga agaactgaaa ctggccaccc agctgaccgg 480
accggtcatg cccgtccgga acgtctataa gaaggagaaa gctcgagtca tcactgagga 540
agagaagaat ttcaaagcct tcgctagtct ccgtatggcc cgtgccaacg cccggctctt 600
cgccatacgg gcaaaaagag ccaaggaagc cgcagaacag gatgttggaaa agaaaaaaaata 660

aagccctcct	ggggacttgg	aatcagtcgg	cagtcatgct	gggtctccac	gtggtgtt	720
tcgtggAAC	aactgggcct	gggatggggc	ttcactgctg	tgacttcctc	ctgccaggGG	780
atTTGGGCT	ttcttGAAAG	acagtccaaG	ccctggataa	tgctttactt	tctgtgttga	840
agcactgttG	gttGTTGgt	tagtactga	tgtaaaacgg	tttcttGtg	gggaaaaaaa	900
aaaaaaaaaa	aaaaaa					915

<210> 327
 <211> 2338
 <212> DNA
 <213> Homo sapiens

<400> 327						
agcgcacgtc	ggcagtcggc	tccctcgttg	accgaatcac	cgacctctct	ccccagctgt	60
atTTccaaaa	tgtcgctttc	taacaagctg	acgctggaca	agctggacgt	taaagggaag	120
cgggtcgTTA	tgagagtcga	cttcaatgtt	cctatgaaga	acaaccagat	aacaaacaac	180
cagaggattA	aggctgctgt	cccaagcatc	aaattctgct	tggacaatgg	agccaagtcg	240
gtagtccttA	tgagccacct	aggccggcct	gatggtgtgc	ccatgcctga	caagtactcc	300
ttagagccag	ttgctgtaga	actcaaATct	ctgctggca	aggatgttct	gttcttgaag	360
gactgtgtag	gcccagaagt	ggagaaAGCC	tgtgccaacc	cagctgctgg	gtctgtcatc	420
ctgctggaga	acctccgctt	tcatgtggag	gaagaaggga	aggaaaaaga	tgcttctggg	480
aacaaggTTA	aagccgagcc	agccaaaata	gaagcttcc	gagcttcact	ttccaagcta	540
ggggatgtct	atgtcaatga	tgctttggc	actgctcaca	gagcccacag	ctccatgta	600
ggagtcaatc	tgccacagaa	ggctgggtgg	ttttgatga	agaaggagct	gaactacttt	660
gcaaaggcct	tggagagccc	agagcgaccc	ttcctggcca	tcctggcgg	agctaaagtt	720
gcagacaaga	tccagctcat	caataatatg	ctggacaaag	tcaatgagat	gattattgg	780
ggtggaatgg	ctttacctt	ccttaaggtg	ctcaacaaca	tggagattgg	cacttctctg	840
tttGatgaag	agggagccaa	gattgtcaaa	gacctaATgt	ccaaagctga	gaagaatgg	900

gtgaagatta cttgcctgt tgactttgtc actgctgaca agtttcatga gaatgccaag 960
actggccaag ccactgtggc ttctggcata cctgctggct ggatgggctt ggactgtgg 1020
cctgaaagca gcaagaagta tgctgaggct gtcactcggg ctaagcagat tgtgtggat 1080
ggtcctgtgg gggtatttga atggaaagct tttgccccggg gaaccaaagc tctcatggat 1140
gaggtgggtga aagccacttc taggggctgc atcaccatca taggtgggtgg agacactgcc 1200
acttgctgtg ccaaattggaa cacggaggat aaagtcagcc atgtgagcac tgggggtgg 1260
gccagtttgg agtccttggaa aggtaaagtc cttcctgggg tggatgctct cagcaatatt 1320
tagtactttc ctgcctttta gttcctgtgc acagccccata agtcaactta gcattttctg 1380
catctccact tggcatttagc taaaaccttc catgtcaaga ttcagctagt ggccaagaga 1440
tgcagtgcca ggaaccctta aacagttgca cagcatctca gctcatcttc actgcaccct 1500
ggatttgcac acattcttca agatcccatt tgaattttt agtgactaaa ccattgtgca 1560
ttctagagtg catatattta tattttgcct gttaaaaaga aagtgagcag ttttagctta 1620
gttctctttt gatgttaggtt attatgatta gctttgtcac ttttcacta ctcagcatgg 1680
aaacaagatg aaattccatt ttaggttagt gagacaaaat ttagtgcacca ttaagtaaac 1740
aataaaaatg tccattgaaa ccgtgatttt ttttttttc ctgtcatact ttgttaggaa 1800
gggtgagaat agaatcttga ggaacggatc agatgtctat attgctgaat gcaagaagtg 1860
gggcagcagc agtggagaga tggacaatt agataaatgt ccattttta tcaagggcct 1920
actttatggc agacattgtg ctatgtctt tattctaact tttttttta tcagttacac 1980
atgatcataa tttaaaaatg caaggcttat aacaaaaaaag ccccagccca ttccctccat 2040
tcaagattcc cactccccag aggtgaccac tttcaactct ttagttttc aggtatatac 2100
ctccatgttt ctaagtaata tgcttatatt gttcacttcc tttttttta ttttttaaag 2160
aaatctattt cataccatgg aggaaggctc tggccacat atattccac ttcttcattc 2220
tctcggtata qttttgtcac aattataqat tagatcaaaa qtctacataa ctaatacacaq 2280

tgagctatgt agtatgctat gattaaattt acttatgtaa aaaaaaaaaa aaaaaaaaaa 2338

<210> 328

<211> 2519

<212> DNA

<213> Homo sapiens

<400> 328

gcgtgtcagg tgggtgcgga gctgaatcat attctaagaa ctcagccact caggtatcca 60

ccatggtgct gggtcctgaa cagaagatgt cagatgacag tgggtcgga gatcatgggg 120

agtctgccag tcttggtAAC atcaaccctg cctatagtaa tccctctctt tcacagtccc 180

ctggggactc agaggagtagc ttccgcactt actttaatga gaagatctcc attcctgagg 240

aggagtactc ttgttttagc ttccgtAAAC tctgggcttt caccggacca ggtttctta 300

tgagcattgc ctacctggat ccagggAAATA ttgaatccga tttgcagtct ggagcagtgg 360

ctggatttaa gttgctctgg atccttctgt tggccaccct tgggggctg ctgctccagc 420

ggcttgcagc tagactggga gtggttactg ggctgcacatct tgctgaagta tgtcaccgtc 480

agtatcccaa ggtcccacga gtcatcctgt ggctgatgggt ggagttggct atcatcggt 540

cagacatgca agaagtcatt ggctcagcca ttgctatcaa tcttctgtct gtaggaagaa 600

ttcctctgtg gggggcggtt ctcatcacca ttgcagatac tttgtatTT ctcttcttgg 660

acaaatatgg cttgcggaaag ctagaagcat ttttggctt tctcatcact attatggccc 720

tcacatttgg atatgagtat gttacagtga aacccagcca gagccaggta ctcaaggcga 780

tgttcgtacc atcctgttca ggctgtcgca ctccacagat tgaacaggct gtgggcacatcg 840

tgggagctgt catcatgcca cacaacatgt acctgcattc tgccttagtc aagtctagac 900

aggtaaaccg gaacaataag caggaagttc gagaagccaa taagtacttt ttcattgaat 960

cctgcattgc actctttgtt tccttcatca tcaatgtctt tgggtctca gtctttgtg 1020

aagcattttt tggggaaaacc aacgagcagg tgggtgaagt ctgtacAAAT accagcagtc 1080

ctcatgctgg cctcttcct aaagataact cgacactggc tgtggacatc tacaaagggg	1140
gtgttgtgct gggatgttac tttgggcctg ctgcactcta catttggca gtggggatcc	1200
tggctgcagg acagagctcc accatgacag gaacctattc tggccagttt gtcatggagg	1260
gattcctgaa cctaaagtgg tcacgcttg cccgagtggt tctgactcgc tctattgcca	1320
tcatccccac tctgcttgtt gctgtcttcc aagatgtaga gcatctaaca gggatgaatg	1380
actttctgaa tgttctacag agcttacagc ttcccttgc tctcataaccc atcctcacat	1440
ttacgagctt gcggccagta atgagtgact ttgccaatgg actaggctgg cggattgcag	1500
gaggaatctt ggtccttatac atctgttcca tcaatatgtt cttttagtgc gtttatgtcc	1560
gggacctagg gcatgtggca ttatatgtgg tggctgctgt ggtcagcgtg gcttatctgg	1620
gctttgtgtt ctacttggtt tggcaatgtt tgattgcact gggcatgtcc ttcctggact	1680
gtgggcatac gtgccatctg ggattgacag ctcagcctga actctatctt ctgaacacca	1740
tggacgctga ctcacttgc tctagatgac tgacagcctg agagactcta taagaacatg	1800
ttttctaaag ccctttgtt gccaggtgtc ccgttaacgt ctctgttagt tcaaaggta	1860
gttttgttca gacgtttga acaaaaaggca aagatttcct catggaaagg gtgttcaaaa	1920
ctgacagcta taaatgttagg tcagagaccc acccacctca taacagtcat acactcccag	1980
agttaaacga ttggcctctg atggccacac acccctatgg gcttgtgtct tggactctgg	2040
gatttaaaag atatatatgt atatatattt atgtaaacct gagcatctca gtttgggttag	2100
agtttaagg ttatataaaa ctgatagaac ttttgttattt ttttttaaa tattgttttg	2160
atatatcaga tatttgtttt gtctggatca caagtgagaa agaaaagaga ataatgctct	2220
ttttcacaat gaactggta aattgactat cttgtaaagt gatactttac tatgtcagtg	2280
aaatttcagt ttgatttttag tcaaccagat tatatcctt gtatctactg atattaacac	2340
atcatattaa cacatcattt cttaaaaaaa catttcttct gtttggcaat cataattaac	2400
tctggttatc agcctatttt gtaatttattt tctttgtcgt cactttctt gaattgtttt	2460

ctagtcatta aacagatatg aaggcaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2519

 <210> 329
 <211> 1623
 <212> DNA
 <213> Homo sapiens

 <400> 329
 cccccagacc attatggcct ccctgcagtt tgtgatctct ttgcctgtat gcagcttaaa 60
 gttgataaag agaagtggtt atatcgaact cctctacaga tgtgaaggaa tggacaagag 120
 ttgagcagcc tttctgctga ttatcacaca tcatgagctg agtgaactgca gcttgccaaa 180
 tctttgtgtt tctgggtctg accaattagc ttagttcttc tcctgcctaa ttttgaacta 240
 gtaaagcaaa gtgagtcatc agattatgag ttactgtta aaagaaaaat gctgtttatt 300
 catgctgagg tgattcagtt ccctccttct tacagaagta ttttaattca ccccacacta 360
 gaaatgcagc atcttgtgg acgtctttt cacaaggcctc caaggctcct tagattgggt 420
 cgttactaaa agtacattaa aacactcttg tttatcgaag tatattgatg tattctaaag 480
 ctagtaaact tccctaacgt ttaattgccc tacagatgct tctttgctg tgggtttct 540
 tttgttagtg gtctgaaata attatttcc ttttcttattt atacatagtg tttttgcac 600
 aaaaaaaaaa acctggtcaa tagtgattac caaaatataat attaataatc ttggcaattt 660
 ttgacattaa ttatgaaaca ttttagccca cgtagttctt acattattct tcacttaaac 720
 tcagctactg caaattttgtt ctttctgtaa atgttattaa aatatccagt gagctctta 780
 gaaggactca gtattatttc aagactattt ttgaggtaat tctagccttt taaaatattc 840
 tacagaccta cggggcttaa aagaacccca gtaccgacta agcaaatagg caaaagacat 900
 gttggaaatg tagtatactt cttgaaacag tcactatcat agggataatt ggtgcattct 960
 gtgttaatgg aagctgagct tgacacctgg tgcttttaag tagggataaa gtcatcctct 1020
 cactgcaagc acagcatacc tgcacctcca aaagtgcgtt ttttagtgaac aggccgtttt 1080
 caacacttgtt gccttgggtt gttcattgaa gctttgtgaa aactactgat gttttctcag 1140

tctccttaaa gttacgtcca tgctttaaaa tgtctgtgta ggagagaagt ggggtttata 1200
atgtttctc taagatatct ttgctgctt ccagactttg aaactattaa gcttccttaac 1260
tgcctcttac cgaaaaatact tctggggaaa cttcatggtc ccaaaatgtc attgccatac 1320
agcttcacta gagttctttg aaccacagct gaaaagagct ttgtattatt ttttaattcc 1380
ctccccagat atcatttagg agtattatat aaaggtggtg ggcaaaaaca atgtaaggag 1440
cctttccagt tatcttgagt tgcagctctg tagttcttg aggccaaaca cactgtattt 1500
tacaagtcaa aatataattt acattaatca ctatgttaat gagtatgtaa aacattctt 1560
tgcattgatg aattttgtat ctgcttccat taaaagcata acagccataa aaaaaaaaaa 1620
aaa 1623

<210> 330
<211> 3379
<212> DNA
<213> Homo sapiens

<400> 330
ctggcctggg cctgaagtga gtgagaggca catgaagaga agtattcaag tatttataca 60
gataggaatc aagataatca acaatgtctg tcactgagga agacctgtgc caccatatga 120
aagtagtagt tcgtgtacgt ccggaaaaca ctaaagaaaa agcagctgga tttcataaag 180
tggttcatgt tgtggataaa catatcctag ttttgatcc caaacaagaa gaagtcagtt 240
ttttccatgg aaagaaaact acaaataaa atgttataaa gaaacaaaat aaggatctt 300
aatttgtatt tcatgtgtt tttgatgaaa cgtcaactca gtcagaagtt tttgaacaca 360
ctactaagcc aattcttcgt agttttga atggatataa ttgcacagta cttgcctatg 420
gtgccactgg tgctggaaag acccacacta tgctaggatc agctgatgaa cctggagtg 480
tgtatctaac aatgttacac ctttacaaat gcatggatga gattaaagaa gagaaaat 540
gtagtactgc agtttcatat ctggaggtat ataatgaaca gattcgtgat ctcttagtaa 600

attcagggcc acttgctgtc cgccaagata cccaaaaagg ggtggtcgtt catggactta 660
ctttacacca gcccaaatcc tcagaagaaa ttttacattt attggataat ggaaacaaaa 720
acaggacaca acatcccact gatatgaatg ccacatcttc tcgttctcat gctgtttcc 780
aaatttactt gcgacaacaa gacaaaacag caagtatcaa tcaaaatgtc cgtattgcca 840
agatgtcact cattgacctg gcaggatctg agcgagcaag tacttccggc gctaagggga 900
cccgatttgt agaaggcaca aatattaata gatcacttt agcttttggg aatgtcatca 960
atgccttagc agattcaaag agaaagaatc agcatatccc ttacagaaat agtaagctta 1020
ctcgcttggaa aaggattct cttggaggaa actgtcaaac tataatgata gctgctgtta 1080
gtccttcctc tgtattctac gatgacacat ataacactct taagtatgct aaccgggcaa 1140
aggacattaa atcttcttg aagagcaatg ttcttaatgt caataatcat ataactcaat 1200
atgtaaagat ctgtaatgag cagaaggcag agattttatt gttaaaagaa aaactaaaag 1260
cctatgaaga acagaaagcc ttcactaatg aaaatgacca agcaaagtta atgatttcaa 1320
accctcagga aaaagaaatc gaaaggtttc aagaaatcct gaactgcttg ttccagaatc 1380
gagaagaaat tagacaagaa tatctgaagt tggaaatgtt acttaaagaa aatgaactta 1440
aatcattcta ccaacaacag tgccataaac aaatagaaat gatgtttct gaagacaaag 1500
tagaaaaggc cactggaaaa cgagatcata gacttgcaat gttgaaaact cgtcgctcct 1560
acctggagaa aaggagggag gaggaattga agcaatttga tgagaatact aattggctcc 1620
atcggtcgaa aaaagaaatg ggactcttaa gtcaaaacgg tcatattcca aaggaactca 1680
agaaagatct tcattgtcac catttgcacc tccagaacaa agattgaaa gcacaaatta 1740
gacatatgtat ggatcttagt tgtcttcagg aacagcaaca caggcagact gaagcagttat 1800
tgaatgcttt acttccaacc ctaagaaaac aatattgcac attaaaagaa gccggcctgt 1860
caaatgctgc ttttgaatct gacttcaaag agatcgaaca tttggtagag aggaaaaaaag 1920
tggtagtttg ggctgaccaa actggcgaac aaccaaagca aaacgatcta cccgggattt 1980

ctgttcttat gacctttca caactggac cagttcagcc tattccttgt tgctcatctt 2040
caggtggAAC taatctggTT aagattccta cagaaaaaaAG aactcggAGA aaactaatgc 2100
catctccCTT gaaaggacAG catactctAA agtctccACC atctcaaAGt gtgcagctca 2160
atgattctct tagcaaAGAA ctTCAGCCTA ttgtatatac accagaAGAC tgtagaaaaAG 2220
ctttcaAAA tccgtctaca gtaaccttaA tgaaaccatc atcattact acaagtttc 2280
aggctatcAG ctcaaACATA aacAGTgATA attgtctgAA aatgttGtGt gaagtagctA 2340
tccCTcataA tagaAGAAA gaatgtggAC aggaggACTT ggactctaca tttactata 2400
gtgaagacat caagagctcg aagtgtAAat tacccgaaca agaATcacta ccaaATgata 2460
acAAAGACAT tttacaACGG cttgatcTTT ctTCATTCTC aactaAGcat tctatgcctg 2520
taccaAGcat ggtGCCATCC tacatggcaa tgactactgc tgccAAAAGG aaACGGAAat 2580
taacaAGttc tacatcaaAC agttcgTTA ctgcAGACgt aaattctgGA tttGCCAAAC 2640
gtgttcgaca agataATTCA agtgAGAGC acttacaAGA aaACAAACCA acaatggAAC 2700
ataAAAGAAA catctgtAAA atAAATCCAA gcatggTTAG AAAATTGGA agAAATATT 2760
caAAAGGAAA tctaAGATAA atcacttcaa aaccaAGCAA aatgaAGTTG atCAAATCTG 2820
ctttcaAAAG tttatccAAAT acccttcaaA aaatATATTt AAAATCTTG aaAGAAGACC 2880
catcttAAAG ctaagttac ccaAGTactt tcAGCAAGCA gaaaaATGAA actctttgtt 2940
ttcttctttt gtgttctAAA AAAATAAAAT ttcaAAAGAA aaggTTGtct ttAAGTTT 3000
ttaaatATTt gttgcctttt AAAATCCCTG agtgtaAGTT accatggTgg cagcttagtt 3060
ttactatGCC acaacaAGTT gactaggaca ttttagtAAA tggtAGTgAG ttaaATTATC 3120
tttattATTt ttAAAAATA agaATTAGA agtggtAAAA ttatggCCCA agatgtATTt 3180
ggttctctat tatgtttGA tacattATTt taatcatata tatgactttc ctTTTcaAAA 3240
atacttAAAT gtacaAGTGT AAATATATGT gcccataAAA tcattgtAAA tattATTAG 3300
tcatcacAAA taaaATATTG tcccttgcta cttgatatac taaAGATGTA gatTTAAAG 3360

tgaaaaaaaaaaa aaaaaaaaaaa

3379

<210> 331

<211> 964

<212> DNA

<213> Homo sapiens

<400> 331

tctcaaccct	gtgagagtcc	atattgagat	tggcccagat	ggaagagtga	cgggtgaagc	60
agatgttgag	tttgctactc	atgaagaagc	tgtggcagct	atgtccaaag	acagggccaa	120
tatgcagcac	agatatatag	aactcttctt	gaattcaaca	acaggggcca	gcaatggggc	180
gtatagcagc	caggtgatgc	aaggcatggg	ggtgtctgct	gcccaggcca	cttacagtgg	240
cctggagagc	cagtcagtga	gtggctgtta	cggggccggc	tacagtggc	agaacagcat	300
gggtggctat	gactagttt	gttaggaaca	tttgagttac	ttcaatcatt	ttcacaggca	360
gccaacaaggc	aattaagagc	agttataata	gaggaagctg	ggggaccat	tttgcaccat	420
gagtttgcga	aaaatctgga	ttaaaaaatt	acctcttcag	tgtttctca	tgcaaaattt	480
tcttctagca	tgtgataatg	agtaaactaa	aactatttc	agctttctc	aattaacatt	540
ttggtagtat	acttcagagt	gatgttatct	aagtttaagt	agtttaagta	tgttaaatgt	600
ggatctttta	caccacatca	cagtgaacac	actggggaga	cgtgctttt	tggaaaactc	660
aaaggtgcta	gctccctgat	tcaaagaaat	atttctcatg	tttggcatt	ctagttata	720
ttttcattta	aaatccttta	ggttaagttt	aagctttta	aaagttagtt	ttgagaattt	780
agacacaata	ctaatactgt	aggaatttgt	gaggccttga	cttaaaactt	tctttgtact	840
gtgatttcct	tttgggtgta	tttgctaaag	tgaaacttgt	taaattttt	gttaactaaa	900
ttttttctt	aaaataaaga	cttttcaca	aaaaaaaaaa	aaaaaaaaaa	aaaaaaaaaa	960
aaaa						964

<210> 332

<211> 1937

<212> DNA
<213> Homo sapiens

<400> 332

gcctcccgct	cgccctgaac	ccagtgccctg	cagccatggc	tcccggccag	ctcgcccttat	60
ttagtgtctc	tgacaaaacc	ggccttgtgg	aatttgcaag	aaacctgacc	gctttgggtt	120
tgaatctggc	cgcttccgga	gggactgcaa	aagctctcag	ggatgctggt	ctggcagtca	180
gagatgtctc	tgagttgacg	ggatttcctg	aatgttggg	gggacgtgtg	aaaactttgc	240
atcctgcagt	ccatgctgga	atcctagctc	gtaatattcc	agaagataat	gctgacatgg	300
ccagacttga	tttcaatctt	ataagagttg	ttgcctgcaa	tctctatccc	tttgtaaaga	360
cagtggcttc	tccaggtgta	actgttgagg	aggctgtgga	gcaaattgac	attggtgag	420
taacacctact	gagagctgca	gccaaaaacc	acgctcgagt	gacagtggtg	tgtgaaccag	480
aggactatgt	ggtgggtgtcc	acggagatgc	agagctccga	gagtaaggac	acctccttgg	540
agactagacg	ccagtttagcc	ttgaaggcat	tcactcatac	ggcacaatat	gatgaagcaa	600
tttcagatta	tttcaggaaa	cagtacagca	aaggcgtatc	tcagatgccc	ttgagatatg	660
gaatgaaccc	acatcagacc	cctgcccagc	tgtacacact	gcagcccaag	cttcccatca	720
cagttctaaa	tggagccct	ggatttataa	acttgtgcga	tgctttgaac	gcctggcagc	780
tggtaagga	actcaaggag	gcttaggta	ttccagccgc	tgcctcttgc	aaacatgtca	840
gcccagcagg	tgctgctgtt	ggaattccac	tcagtgaaga	tgaggccaaa	gtctgcattgg	900
tttatgatct	ctataaaacc	ctcacaccca	tctcagcggc	atatgcaaga	gcaagagggg	960
ctgataggat	gtcttcattt	ggtgattttg	ttgcattgtc	cgatgtttgt	gatgtaccaa	1020
ctgaaaaat	tattccaga	gaagtatctg	atggtataat	tgccccagga	tatgaagaag	1080
aagccttgac	aatactttcc	aaaaagaaaa	atggaaacta	ttgtgtcctt	cagatggacc	1140
aatcttacaa	accagatgaa	aatgaagttc	gaactcttctt	tggtcttcat	ttaagccaga	1200
agagaaaataa	tggtgtcgtc	gacaagtcat	tathtagcaa	tgttgttacc	aaaaataaaag	1260

atttgccaga	gtctgccctc	cgagacctca	tcgtagccac	cattgctgtc	aagtacactc	1320
agtcttaactc	tgtgtgctac	gccagaacg	ggcaggattat	cggcattgga	gcaggacagc	1380
agtctcgat	acactgcact	cgccttgcag	gagataaggc	aaactattgg	tggcttagac	1440
accatccaca	agtgcattcg	atgaagtttta	aaacaggagt	gaagagagca	gaaatctcca	1500
atgccatcga	tcaatatgtg	actggAACCA	ttggcgagga	tgaagatttg	ataaagtggaa	1560
aggcactgtt	tgaggaagtc	cctgagttac	tcactgaggc	agagaagaag	gaatgggttg	1620
agaaactgac	tgaagtttct	atcagctctg	atgccttctt	cccttccga	gataacgtag	1680
acagagctaa	aaggagtgg	gtggcgtaca	ttgcggctcc	ctccggttct	gctgctgaca	1740
aagttgtgat	tgaggcctgc	gacgaactgg	gaatcatcct	cgctcatacg	aacttcggc	1800
tcttccacca	ctgattttac	cacacactgt	ttttggctt	gcttatgtgt	aggtgaacag	1860
tcacgcctga	aactttgagg	ataacttttt	aaaaaaataa	aacagtatct	cttaatcact	1920
ggaaaaaaaaa	aaaaaaaaaa					1937

<210> 333
 <211> 2029
 <212> DNA
 <213> Homo sapiens

<400> 333	cgacgcgtg	ggctgaagt	tattgaaaca	aatgattat	ttcataatgt	ttgaattgct	60
	tccaaactgc	atgttattta	ttctaaactc	tccctctgat	aggataccga	gacctagaga	120
	agttaagaaa	acaagccccca	gatcaatcac	attgctcctg	acagcaccta	accttctaga	180
	ttccaagtcc	aatggtttc	ctggtaactat	gatgctagta	gatctaaaaa	aataataatc	240
	tagatctaca	ctatccaata	tggtagccac	tggccacatg	tgattttagc	tcttgatatg	300
	tgttaattc	gaatttagat	gtgccgtaag	tgtaaaatgc	acactgaatt	tcaaagactt	360
	agtatgaaaa	aaaaaaagtat	ctcaattttt	attacatgaa	gtgataacct	agaaacactg	420
	gacgaagtaa	atattataaa	aattaatttt	acatattcc	ttttatTTAA	tgtggctact	480

agaaacttat gtatggctca catatttcta ctgaacagca ctgatatatt tggcaatata 540
cagggtatac attatatata tataatata ttctatgtaa atagttcatt aaataattcc 600
tatagtaaaa tatgagaaac aggaaactca tatccaactt ggaaaagttt caaatataat 660
acttattaag aaatacaggt tctattcttc aggtactc tt acctagaatg aattaaggat 720
atgtagaaac tcttatgtta cttataaaat aataaagaga tactgttagt ctctacagag 780
atgctggagt gtcctatag tacctctaga gtatagtata gagataactat aggatctc tt 840
tactatata tagatggta tagactatag aggtatctc agactatata ttatttatac 900
tctactatcc tataatgtat ctctatatac agagataata tataactcc atatagtata 960
ctctagagat gctataagtt tctgttagt cttatatac gagataatag ggagggataa 1020
tagtataggg acgtactata tacctatac atctctataa gtacacaagt tcccccatta 1080
atcatctgtt ttcagttgtt aaccaaataa ggtattatgc aggctcatct ttttatataa 1140
gaagaaaaga ctgaatgctc cctatgactt cattttctcc ctgttccac taccatgtcc 1200
ccaaacatac tgacacacaa agaaaatata aataccctg attcttttag ccttaaactt 1260
agggcctcat cctaaacatc ttaagctcag catctattcc aaaggaactc ttatgata 1320
acgtttctt gtaaagagac gaatatcatc tggggtttcc tctgaaatgt agatgaacct 1380
cacttcagtt ctttgtgtac taaaaagacc caccctctc acccatgtgg ctttgtctt 1440
tccttgtgtt atgtaataag tggatggta gaaggatggg gggtgagga agctacatca 1500
tggagagagg aggtagaaga cagctgtgga aaatttgat ggtggaaagac tagaatctac 1560
taccatttac atgctaatac aaaccagaaa tggcttttt tccccgttt gatctgattt 1620
gaaagttgt gactttgtc tagtatgtca ttttacccccc tggatgggg tcattgtgt 1680
tagctataaa aactcttga aattctcaaa ataaaggaag gtttcttca ggaataggag 1740
ggctgaggc aagctgtgaa actgcattct tcatagtggg tctattgggg tggaaaaccc 1800
gccttgaag taatagaagg tagaagcccg gaaggaaaca ggtctggccc tggatccagg 1860

aaaataaaaga aagaataat tggagatgta gcttagtact tagaattatc ccagaagtga	1920
acaacatcag taaggtctgg gcttccccct aacgtaacct cttatgaggg tttcaacctc	1980
acatccatat atctttaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	2029

<210> 334
 <211> 2923
 <212> DNA
 <213> Homo sapiens

<400> 334	
ccagcctgga cgacagagca gactccatct caaaaaaaaaa aaaaaaatgg tcaccccttt	60
tgctcctaaa tcaccctcaa agtaaaagag aacaagaaac agaagcagaa atccatattt	120
agtgaaataa gacaacacct gtagctccaa acctgttagaa gcagatccca gagaaaagca	180
ggccagttct ctcctggaat cccagaaagt cccaggaatt ggaggcttca gtgctgcagt	240
agggagggga ctaaaaacaa agtctgtata tggagcagta agacctccgg gttctcatcc	300
cccatcctgt gtgctctcggt gtgactagcc ctctccctct ccaggtttag cttctggaga	360
aattaaatca aagaggctct agaactgggg atggcaggca ttgagtgcag ggagttagtt	420
gccagaggct gagagcagag agatttagtg gcagtggca gagcaaacag caaatgact	480
gccctcttcc ctggccttgc tccagaaact gagcagccag acatacacac tcccagaagg	540
cagttggagg tccccccggg caatcagaac cacccacaga gaagacctcc agatactgac	600
atttagaagc ctctgaccaa agagctgcct ggccacccac tggcttactc gctgacaggc	660
catgctcctg ccgtacacac cgatcctatc agtcatcctc atggccttc ttccagactt	720
ctgagggaaag cttccaacat gaagagggag ttcaaaacaa acagagagag agagagagag	780
agagagagag agagagagag agagagaaaa gaaatataaa caatgcaggg agcaaaagat	840
aacttcaaataaactcaaaa tattcttctg ggagagatga gacaatattg catacataaa	900
acaagaagag gatgctatca ctaaattttaa aaaaaaaaaaagta acagaaagta agaaagacct	960

ctaagaaaatg tttctgaaat gaggtataat tttttttttt ttgaggggga gtcttgctct 1020
gtcacccagg ctggagcgca gtggcgtgat ctcggctcac tgcaacctcc gtctcccgaa 1080
ttcaagtgtat tctcctgcct cagcttcctg agtagctggg attacaggca tgcgccacca 1140
tgccctggcta attttgcatt ttttagtagag acggggtttc accatgttgg ccaggctgg 1200
ctgaaaactcc cgacctcagg tgatctgccc acctcagcct cccaaagtgc tgggattaca 1260
ggcatgagct accgtgcctg gcctgtgtat ttttggagac agagtcttgc tctgttgc 1320
aggctggagg gcagtggtgc aaactctgcc tcccggttc aagcgattct cgtcggtcac 1380
ctcccaagta gctggggcta gaggcatgtg ccaccatgtc tggttacttt ttatataaac 1440
cttcagttta atcttttagc ttactgctgt gttttcagc tttattcact ttgcttttt 1500
tctatatttt cgtttcaact caactttaa aaaatcatac ttgtatattt gtatatttt 1560
atttattttc caagacacta tttgcctctt tttcataatg ggctattatt gctccatgg 1620
acagaatctt ctgttcttc cttaaactatt agttatttt aaaatattt ttaactttct 1680
cccccttgct agttctcagg tacccgctt ctcccaaggt gctggtttc cttaattatt 1740
tgctgacttg tgctgggttg taacccttca tacttaggtt tttctatttg tctgactgct 1800
gatttgattc caatccagtg tttcttctga ttctggaga agagacgaca acgctgtgag 1860
gctctggttt tggggcttg tctgggttg ggagctcctt gtcatcatgg gatttttagc 1920
tccctgggtc gccatcctac atggccactc tcctgcccgt gctgcccgt actcagcagg 1980
agggaaagtc gagaccacct ccttaacctt acagacattt attgtgagct tggagcacct 2040
tccgtgactg gaccacccat gcagtggtcc tttgctttt gcattttaa ctgcaatttt 2100
ccccaaaggt ctccctaat acagtctctt aggaattgac ggtgggatta aacaaggcat 2160
gtttctgcac tgaatatggc ctatgggttg ccactttgca acctcagctt taaggcttat 2220
ttcctccag gaaactgatg ttaactttt aagttaaaaa tgtgtatata agtaatacat 2280
gtttattttgg gaaatttagaa aatacaggcc aggtgtggtg gctcatgcct gtaatccag 2340

cattttggga	ggttggaggcg	ggaggattgc	ctggggcccg	gagtttgaga	ccagcctggg	2400
caacataggg	aaattccatc	tctacaaaaaa	aattaaacat	tggctgggtg	tggtggtgcc	2460
cacctgtggt	cacagctact	cgggagactg	aggtgggagg	atagcttggg	caggggaggt	2520
tgaggctaca	gtgagccacg	atcacaccaa	tgtgacacag	tgagaccctg	tctcaaaaaaa	2580
aaaaaaaaaaag	aaagaaaata	taggtaaaca	caaagacaaa	aaagcaggc	atggtggctc	2640
acacctgtaa	ttcttagcacc	ttgggaggct	gaggcaggag	gatcacttga	ggtcaggaac	2700
tcgagacgag	accaggctgg	gcagcatggc	aggacccat	ctctataaaa	agtacaaaaaa	2760
ttagcagggc	acggtggtgt	gcacctgtgg	tcctgctact	tgggaagttg	aggtgggagg	2820
atcacctgag	ccctggaggt	tgagggtgct	gtgagccatg	atggcaccac	tccactccag	2880
tccaggtgaa	agagccagat	cctgtctcaa	aaaaaaaaaa	aaa		2923

<210> 335
 <211> 2283
 <212> DNA
 <213> Homo sapiens

<400> 335	cgccctccagg	ccccttcccg	cgccgcgacg	cacgctgccc	cggaaggccg	cggcgctgta	60
	gtgcggcgcc	ccaggttctt	tagtggaaaga	acgcgaagcg	aggatgagtg	atccgtggag	120
	gcagtaacag	gcgcggcgag	ggagaagtga	ttcccgaaaga	atcaaggctg	ggccggaccc	180
	ggtggcctgg	caacaggtaa	taagagaaat	gaagccaaca	ggtacagacc	caaggatctt	240
	atctatagct	gctgaagttg	caaaaagccc	tgagcagaat	gtccctgtta	tactgttcaa	300
	gttaaaagaa	ataataaaca	tcacaccttt	aggaagctca	gagttgaaga	aaatcaaaca	360
	agatatatat	tgttatgatc	tcattcaata	ttgcctcttg	gtcctcagtc	aagattattc	420
	tcgaatccag	ggtggttgga	ctacaatttc	ccagcttaca	cagatattaa	gccattgctg	480
	tgtggcctg	gagccaggag	aagatgcaga	ggaattttac	aatgaattac	ttccatcagc	540
	tgcagaaaaat	tttctagttt	tggggagaca	attacaaaca	tgttttatca	atgcagctaa	600

ggctgaagaa aaagatgaat tactacactt tttccaaatt gtgactgatt ctctcttctg 660
gctttggga ggccatgtt aacttattca gaatgtacta caaagtgatc atttcttaca 720
tttactgcaa gctgacaatg tccaaatagg atctgcagtc atgatgatgc tacagaatat 780
attacagatc aacagtggtg atttactcag aataggaaga aaagccctgt attcaatttt 840
agatgaagtt atttcaagc tttttcaac tcctagtcca gttataagaa gtactgctac 900
aaaactccta ctgttcatgg ctgaatccca tcagggaaatt ttgattttac tgagacaaag 960
tacctgctac aaaggactca gacgtctact aagtaaacag gaaactggga ctgaattcag 1020
tcaagaactt agacagctt gttggccttt aagcccaatg gtctatcagg aagtagaaga 1080
gcagatccaa acgatcaaag atgttgctgg agataaatag gcagaaggaa gaagaggacc 1140
tcaaattaca attgcaactt caaagacaga gagccatgag actttcccgaa gaattgcagc 1200
tgagtatgct cgaaatagtt catccaggc aggtggagaa acactatcgg gaaatggaag 1260
agaaatcagc actgatttac cagaaacatt ggagagggta cagggaaagg aaaaattttc 1320
accaacagag gcagtctctc atagagtata aagcagctgt cacacttcaa agagcagcgc 1380
ttaaattcct agcgaagtac cgtaagaaaa agaaactatt tgctccttgg cgaggactcc 1440
aagaactcac tgatgcacgc cgagttgaac tgaagaaacg agtggatgac tatgtcagaa 1500
gacatttggg ctctccaaatg tcagatgtgg tcagtaggga gctccatgcc caagctcaag 1560
aacgactgca acactactt atgggcaggg ccctagaaga gcgagccag cagcacagag 1620
aagctctgat agcacagatc agcaccaacg ttgaacagct aatgaaggca ccaagtctga 1680
aggaggcaga agggaaagaa cctgagctct tcctaagtag atccaggcct gtggcagcca 1740
aggccaagca ggcccatctc acaaccctga agcacataca agcaccctgg tggagaagc 1800
ttggagaaga atctggagat gagattgatg ttccaaagga tgagcttagt atagaattag 1860
aaaatttatt cattggtgga accaaaccac cttagtgagt aaccctaaga attgacacaa 1920
atctcatatt ttaggagatt atattggttc tgcctctggc atgctggtag actagggcca 1980

tccttaactta ttattttcca gaggttctcc tccagacaag acctgcagta agcaaagagt	2040
tatattctac ctctctctca attttcttt tctttctct gtatcctcat ccttagccac	2100
acacagattt gtgtggctt tattgttagaa ctaaacttag catagtgttc tggtgtttac	2160
atgaagtgtg ttttctttg gtttcttctg ttttccaact aaatattttt ttctaaataa	2220
atatttcaa caattgattt gaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa aaaaaaaaaaaa	2280
aaa	2283

<210> 336
 <211> 2765
 <212> DNA
 <213> Homo sapiens

<400> 336	
gggagacgtg gtgcgcgtgc gggctcgctc tgccgtgcgc taggcttggt gggaggcct	60
gttctcgagt ccgcgtttt cgtcaccgccc atgtcgggag gtggtgtgat tcgtggcccc	120
gcagggaaaca acgattgccc catctacgtg ggtaacttac ctccagacat ccgaaccaag	180
gacattgagg acgtgttcta caaatacggc gctatccgcg acatcgacct caagaatcgc	240
cgcggggac cgcccttcgc ctgcgttgag ttgcaggacc cgcgagacgc ggaagacgcg	300
gtgtatggtc gcgacggcta tgattacgt gggtaccgtc tgcgggtgga gtttcctcga	360
agcggccgtg gaacaggccg aggccggcggc ggggggtggag gtggccggag ctccccgagg	420
tcgctatggc ccccatccag gcggctcgaa aacagagtgg ttgtctctgg actgcctcca	480
agtggaaagtt ggcaggattt aaaggatcac atgcgtgaag caggtgatgt atgttatgct	540
gatgtttacc gagatggcac tgggtgcgtg gagttgtac ggaaagaaga tatgacctat	600
gcagttcgaa aactggataa cactaagttt agatctcatg agggagaaac tgcctacatc	660
cgggttaaag ttgatgggcc cagaagtcca agttatggaa gatctcgatc tcgaagccgt	720
agtcgttagca gaagccgtag cagaagcaac agcaggagtc gcagttactc cccaaggaga	780

agcagaggat caccacgcta ttctccccgt catagcagat ctcgctctcg tacataagat 840
gattggtgac acttttgta gaaccatgt tgtatacagt tttccttta tcagtacaat 900
ctttcattt ttaattcaa actgtttgt tcagaatggg ctaaagtgtt gaattgcatt 960
cttgaatat ccccttgctc ctaacatcta cattcccttc gtgtcttga taaattgtat 1020
tttaagtgtat gtcatalogaca ggattgtta aatttagtta actccatact cttagactg 1080
tgatattgtg taaatgtcta tctgcctgg tttgtgtgaa ctggatgtt ggggtgttt 1140
gtggttatct tacctggga agttctttag tttatcttc tttcatgtg tctttctgta 1200
gacatatctg aagagatgga ttaagaatgc tttggattaa ggattgtgga gcacattca 1260
atcattttag gattgtcaaa aggaggattg aggaggatca gatcaataat ggaggcaatg 1320
gtatgactcc aagtgttatt gtcacagatg aaattggcag tattgacctt atactaaaag 1380
gcaggggtta aaaatgatta tatacatttt ccttaaaaca cttgcaaaca ttttattcag 1440
ttgtctttag ctacaattgc tttgctttt aaaccttggc aattgtggca aaattatatt 1500
gcccatttt tagcaactta tttgctccc ttcccccat tttgtttta atagggacta 1560
atgtggaaag aactggctaa tttgtcacag tgcttagtta caactgttaa tgtgtgaccc 1620
gctgttggtg tacatgtggg tacaggggtt ttttaatcc aacaagatag agtataat 1680
caatactgct aaatctgcat gtcctctgtg tgactgatag agcgttgcta tttcatttt 1740
ttaagacaaa atgaaagcaa aatatacgt tccatgtat tggtgttagat aatcttagtt 1800
ggaatacttt taagtctcac cttcccttt aaactaataat tcataattgg ttcatatgtt 1860
taaaaagactt taatttacaa attaaattgc aaatgggagc attagattta gtttagact 1920
taggtggta gcaatgccag taaactaaa ttacgtaact tcttgcaacc acgaaacctg 1980
taatacgctg tacagtaaca agtgttggca ttatcagttg aactgtaaat acaaaaatgct 2040
tcttccaatt agtctctatg atgattaagt ttctaaaatt tatctgaaca ccattcagaa 2100
acttggggta gggaaatttga tagttattga tgtgcacatcg ttaaactgat gacagacata 2160

actcatcatt ccccagaaac	ctttttgat tacagtatct	aacatttgc	ctcctcttt	2220		
ttggtttgc	tggttataaa	ggttggatt	ggagagggct	caactggatcc	caatccttgg	2280
agctggatca	ttggattcaa	atcataatgt	ggataggata	gggaggatga	attacccagg	2340
attcatggag	cgggatcaga	ttaccaggaa	cataggagtg	gattcctgcc	ccaaccaaac	2400
cgcattcgtg	tggattttt	tattcaactt	aattggctat	tccaaagatt	tttttttcc	2460
tattttgac	gattggagcc	cttaagatgc	acgatggaat	tgtgtttgc	gttttttgg	2520
aaaaggagca	aagcgaggac	ctggagataa	acgctggagc	aatctccttg	gaaggattca	2580
gcacgagtag	atggtaaaca	tttaaagggg	aaaggggggg	tttgtttaaa	atagtaaattc	2640
agtaagtcac	ttctaaattt	aaagaaaaca	aaattggagt	tgaagaataa	gtaggttcc	2700
aattggctat	tgccgtttc	tttgaaaaaa	taaacatttt	ttaaaaaact	aaaaaaaaaa	2760
aaaaaa						2765

<210> 337
 <211> 1567
 <212> DNA
 <213> Homo sapiens

<400> 337	ggggtcctgc	caccgcgcca	cttggcctgc	ctccgtcccg	ccgcgccact	tcgcctgcct	60
	ccgtcccccg	cccgcgcgc	catgcctgtg	gccggctcgg	agctgcccgc	ccggcccttg	120
	ccccccgccc	cacaggagcg	ggacgcccag	ccgcgtccgc	cgcacgggga	gctgcagttac	180
	ctggggcaga	tccaacacat	cctccgctgc	ggcgtcagga	aggacgaccg	cacgggcacc	240
	ggcacccctgt	cgttattcgg	catgcaggcg	cgctacagcc	tgagagatga	attccctctg	300
	ctgacaacca	aacgtgtgtt	ctggaagggt	gttttggagg	agttgctgtg	gtttatcaag	360
	ggatccacaa	atgctaaaga	gctgtcttcc	aaggagtg	aaatctgg	tgccaatgga	420
	tcccgagact	tttggacag	cctgggattc	tccaccagag	aagaagggga	cttgggccc	480
	gtttatggct	tccagtggag	gcattttggg	gcagaataca	gagatatgga	atcagattat	540

tcaggacagg gagttgacca actgcaaaga gtgattgaca ccatcaaaac caaccctgac 600
gacagaagaa tcatcatgtg cgcttggaaat ccaagagatc ttccctctgat ggcgctgcct 660
ccatgccatg ccctctgcca gttctatgtg gtgaacagtg agctgtcctg ccagctgtac 720
cagagatcg gagacatggg cctcggtgtg ccttcaaca tcgccagcta cgccctgctc 780
acgtacatga ttgcgcacat cacggcctg aagccaggtg actttataca cactttggaa 840
gatgcacata tttacctgaa tcacatcgag ccactgaaaa tttagcttca gcgagaaccc 900
agacctttcc caaagctcag gattcttcga aaagttgaga aaattgatga cttcaaagct 960
gaagactttc agattgaagg gtacaatccg catccaacta taaaaatgga aatggctgtt 1020
tagggtgctt tcaaaggagc tcgaaggata ttgtcagtct ttagggttg ggctggatgc 1080
cgaggtaaaaa gttcttttg ctctaaaaga aaaaggaact aggtcaaaaaa tctgtccgtg 1140
acctatcagt tattaatttt taaggatgtt gccactggca aatgtaactg tgccagttct 1200
ttccataata aaaggctttg agttaactcc ctgagggtat ctgacaatgc tgaggttatg 1260
aacaaagtga ggagaatgaa atgtatgtgc tcttagcaaa aacatgtatg tgcatttcaa 1320
tcccacgtac ttataaagaa ggttggtgaa tttcccaagc tatttttgaa atatttttag 1380
aatattttaa gaatttccca agctattccc tcaaatttga gggagctgag taaccccatc 1440
gatcatgatg tagagtgtgg ttatgaactt taaagtata gttgtttat atgttgctat 1500
aataaagaag tgtttgcatt tcgtcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1560
aaaaaaaaa 1567

<210> 338
<211> 2224
<212> DNA
<213> Homo sapiens

<400> 338
caactctcca caacctttta ttacatcaag aaggagctaa aatggcagtg cgtttagctg 60

gtgggctgca gaaaatggtt gccttgctca acaaaaacaaa tgttaaattc ttggctatta 120
cgacagactg ccttcaaatt ttagcttatg gcaaccaaga aagcaagctc atcatactgg 180
ctagtggtgg accccaagct ttagtaaata taatgaggac ctatacttac gaaaaactac 240
tgtggaccac aagcagagtg ctgaaggtgc tatctgtctg ctctagtaat aagccggcta 300
ttgtagaagc tggtggaatg caagctttag gacttcacct gacagatcca agtcaacgtc 360
ttgttcagaa ctgtcttgg actctcagga atcttcaga tgctgcaact aaacaggaag 420
ggatggaagg tctccttggg actcttgttc agcttctggg ttcagatgtat ataaatgtgg 480
tcacctgtgc agctggaatt ct当地taacc tcacttgcaa taattataag aacaagatga 540
tggctgcca agtgggtggg atagaggctc ttgtgcgtac tgtccttcgg gctggtgaca 600
gggaagacat cactgagcct gccatctgtg ctctcgtca tctgaccagc cgacaccaag 660
aagcagagat ggcccagaat gcagttcgcc ttcactatgg actaccagtt gtggtaagc 720
tcttacaccc accatcccac tggcctctga taaaggctac tggggattt attcgaaatc 780
ttgcccttg tcccgcaaatt catgcacctt tgcgtgagca ggggccatt ccacgactag 840
ttcagttgct tgccgtgca catcaggata cccagcgccg tacgtccatg ggtggacac 900
agcagcaatt tgtggagggg gtccgcatgg aagaaatagt tgaaggtgt accggagccc 960
ttcacatcct agctcggtt gttcacaacc gaattttat cagaggacta aataccattc 1020
cattgtttgt gcagctgctt tattctcca ttgaaaacat ccaaagagta gctgcagggg 1080
tcctctgtga acttgctcag gacaaggaag ctgcagaagc tattgaagct gagggagcca 1140
cagctcctct gacagagtta cttcactcta ggaatgaagg tgtggcgaca tatgcagctg 1200
ctgtttgtt ccgaatgtct gaggacaagc cacaagattt caagaaacgg ctttcagttg 1260
agctgaccag ctctcttttc agaacagagc caatggcttgaatgagact gctgatctt 1320
gacttgatat tggtgcccatgg ggagaacccc ttggatatcg ccaggatgtat cctagctatc 1380
gttctttca ctctggtgaa tatggccagg atgccttggg tatggacccc atgatgaaac 1440

atgagatggg tggccaccac cctggtgctg actatccagt tcatggctg ccagatctgg	1500
ggcatgccc ggacccatg gatgggctgc ctccaggtga cagcaatcag ctggcctgg	1560
ttgatactga cctgtaaatc atcctttagg taagaagttt taaaaagcca gtttggtaa	1620
aatacttttta ctctgcctac agaacaaga cttgggtggt agggtgggag tggtttaggc	1680
tatttgtaaa tctgccacaa aaacaggtat atacttgaa aggagatgtc ttggaacatt	1740
ggaatgttct cagattctg gttgttatgt gatcatgtgt ggaagttatt aacttaatg	1800
tttttgcca cagctttgc aacttaatac tcaaatgagt aacattgct gttttaaaca	1860
ttaatagcag ctttctctc tttatacagc tgtattgtct gaacttgcatt tttgattggc	1920
ctgttagagtt gctgagaggg ctcgaggggt gggctggat ctcagaaagt gcctgacaca	1980
ctaaccaagc tgagttcct atggaaacaa ttgaagtaaa cttttgttc tggcccttt	2040
tggtcgagga gtaacaatac aaatggattt tggagtgac tcaagaagt aagaatgcac	2100
aagaatggat cacaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	2160
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa	2220
aaaa	2224

<210> 339
 <211> 854
 <212> DNA
 <213> Homo sapiens

<400> 339	
gggacacagc cggccaggag aaattcggtg gactgagaga tggctattat atccaagccc	60
agtgtgccat cataatgttt gatgtAACAT cgagAGTTAC ttacaagaat gtgcctaact	120
ggcatagaga tctggtaCGA gtgtgtgaaa acatccccat tgtgttgtgt ggcaacaaag	180
tggatattaa ggacaggaaa gtgaaggcga aatccattgt cttccaccga aagaagaatc	240
ttcagtacta cgacatttct gccaaaAGTA actacaactt tgaaaagccc ttcctctggc	300
ttgcttaggaa gctcattgga gaccctaact tggaatttgt tgccatgcct gctctcgccc	360

caccagaagt	tgtcatggac	ccagcttgg	cagcacagta	tgagcacgac	ttagaggtt	420
ctcagacaac	tgctctcccg	gatgaggatg	atgacctgtg	agaatgaagc	tggagccag	480
cgtcagaagt	ctagtttat	aggcagctgt	cctgtatgt	cagcggtgca	gcgtgtgtc	540
cacccat	ttatcttagct	aagcggaca	tgtgcttcat	ctgtggatg	ctgaaggaga	600
tgagtggct	ttcggagtga	atgtggcagt	ttaaaaaata	acttcattgt	ttggacctgc	660
atatttagct	gttttggAAC	gcagttgatt	ccttgagttt	catatataag	actgctgcag	720
tcacatcccA	atattcagtg	gtgaaatctt	gtttgttact	gtcattcccA	ttcctttcg	780
tttagaatca	gaataaagtt	gtatttcaaa	tatTTaaaaa	aaaaaaaAAA	aaaaaaaAAA	840
aaaaaaaaaa	aaaa					854

<210> 340
<211> 1816
<212> DNA
<213> Homo sapiens

<400> 340						
gaaagatgga	ggaccatcag	cacgtgcccA	tcgacatcca	gaccagcaag	ctgctcgatt	60
ggctggtgga	cagaaggcac	tgcagcctgA	aatggcagag	tctggtgctg	acgatccgcg	120
agaagatcaa	tgctgccatc	caggacatgc	cagagagcga	agagatcgcc	cagctgctgt	180
ctgggtccta	cattcactac	tttcactgcc	taagaatcct	ggaccttctc	aaaggcacag	240
aggcctccac	gaagaatatt	tttggccgat	actcttcaca	gcggatgaag	gattggcagg	300
agattatagc	tctgtatgag	aaggacaaca	cctacttagt	ggaactctct	agcctcctgg	360
ttcggaatgt	caactatgag	atcccctcac	tgaagaagca	gattgccaag	tgccagcagc	420
tgcagcaaga	atacagccgc	aaggaggagg	agtgccaggc	aggggctgcc	gagatgcggg	480
agcagttcta	ccactcctgc	aagcagtatg	gcatcacggg	cgaaaatgtc	cgaggagaac	540
tgctggccct	ggtgaaggac	ctgccgagtc	agctggctga	gattggggca	gcggctcagc	600

agtccctggg ggaagccatt gacgtgtacc aggcgtctgt ggggtttgtg tgtgagagcc 660
ccacagagca ggtgttgc当地 atgctgc当地 tcgtgc当地 gagaa gcggggaaac tcaacgg当地 720
acgagtggag gacagggaca gagccctctg tggtaaacg accccacctc gaggagctc 780
ctgagcaggat ggcagaagat gc当地tgc当地t gggcgactt tgggttagag gc当地tgc当地 840
agggactga ctctggcatc tctgccgagg ctgctggaat cgactgggc atcttccgg 900
aatcagattc aaaggatcct ggaggtgatg ggatagactg gggagacgat gctgttgctt 960
tgcagatcac agtgc当地ggaa gc当地ggaaaccc aggctccaga aggtgttgcc aggggccc当地 1020
atgc当地ctgac actgc当地ttgaa tacactgaga cccggaaatca gttc当地ttgtat gagctcatgg 1080
agctttagat cttcttagcc cagagagcag tggagttgag tgaggaggca gatgtcc当地t 1140
ctgtgagcca gttccagctg gctccagcca tcctgc当地ggg ccagacaaa gagaagatgg 1200
ttaccatggt gtc当地gtgctg gaggatctga ttggcaagct taccagtctt cagctgcaac 1260
acctgtttat gatc当地ctggcc tcaccaaggt atgtggaccg agtgc当地tgc当地a ttc当地ctccagc 1320
aaaagctgaa gc当地gtccc当地ag ctgctggctt tgaagaaaaga gctgatggtg cagaagcagc 1380
aggaggact tgaggagcag gc当地ggctctgg agc当地taagct ggacctgcta ctggagaaga 1440
ccaaggagct gc当地agaagctg attgaagctg acatctccaa gaggtacagc gggcgcc当地t 1500
tgaacctgat gggaaacctct ctgtgacacc ctccgtgttc ttgc当地ctgccc atcttctccg 1560
cttttggat gaagatgata gccaggc当地t gtttttggg gcccttcaag gcaaaaagacc 1620
aggctgactg gaagatggaa agccacagga aggaagc当地ggc acctgatggt gatcttggca 1680
ctctccatgt tctctacaag aagctgtggt gattggccct gtggtctatc aggcgaaaac 1740
cacagattct cttcttagtt agtatacgag acttaataaa agaggaaaaa actcttgctt 1800
aaaaaaaaa aaaaaaa 1816

<210> 341
<211> 696
<212> DNA

<213> Homo sapiens

<400> 341
gaaaaaaacaa agagagacat taacaggttt ctgagtggtt ccagtcttca aggacttatt 60
catgaaggca ccatgacttc tttgtgcattt gccatgacag aggagcagca taagtctgtt 120
gtcatcgatt gcagcagctc ccagcctcag ttctgcaatg caggaagtaa ccggttttgt 180
gaggatttggaa tgcaagcttt tttaaatggt gccaaaggag gtaacccttt tctttccga 240
caagtactgg agaactttaa actaaaggcc atacaagaca caaacaattt gaagagattt 300
atccgacagg cagaaatgaa tcattatgct ttgtttaat gttacatgtt cctaaagaac 360
tgtggtagtg gagatatact tttgaagatt gttaaagtgg aacatgaaga aatgcctgaa 420
gccaaaaatg tgatagctgt ctttgaagaa ttcatgaaag aagcttttga ccaaagtttt 480
tgatcatatg tttttagata attgtatgtt caagttgtat atttaagtct tagtgtttga 540
aattgcagtt ataattgttc ataggattgc tatttaagat gatttgaac tcaatccaga 600
ttttttttt gtattttacc aatttaactt aaataaaaat ctgaagaaca aaaaaaaaaaa 660
aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa aaaaaaa 696

<210> 342

<211> 4912

<212> DNA

<213> Homo sapiens

<400> 342
ctttttgtt tttgagactc catcccaggc aggagtgcag tggcacgatc ttggctcact 60
gcagcctctg cttcccgaggc tcaagcgact ctcctgcccc agtgcacccaa gtagctggaa 120
ttacaggcat gcccacta attttgtat ttattttaga gacagggttt catcatgtt 180
cccaggctgc tctcaaactc ctgatccacc ctcaagcaat ccacccctt tggcctccca 240
aagtgcgtggg attacaggca tgagccaccc tgcgtccggc cccaaattta gtgacttaaa 300
acaagtattt attatctcac agtttctgtt ggccaggagt tcagaaggcag ctttagacatt 360

tctcacaaag ttgctgtcat ctgaaggctt ggctggagct ggaggatgct cttccaagct 420
cactcagatt ggggaccaca aattcagtgc ccaccggatt gtcttagcag cctcgatccc 480
gtatttccat gctatgttta caaatgacat gatggagtgc aagcaggatg agattgtaat 540
gcaaggaatg gacccaagtg ccctggaggc tctgatcaac tttgcctaca acggcaacct 600
tgccattgac cagcaaaatg tccagtcatt gctgatgggg gcgagcttcc tgcagctgca 660
gagcatcaaa gacgcctgct gcacattcct tcgagaacgg cttcacccaa aaaactgcct 720
gggtgtgcgc cagtttgctg agacaatgat gtgtgctgtg ctgtacgacg ctgccaacag 780
cttcatccac cagcactttg tggaggtgtc catgtcagaa gagttcctgg ccctgccctt 840
ggaagacgtg cttgagctgg tgtctcggga tgagctgaat gtcaaattctg aggagcaggt 900
ctttgaagct gcattggcct gggtcagata cgaccggag cagaggggtc cttacctgcc 960
tgagctgctg tccaatatcc gcctgcccct ctgtcggccc cagttccctt cagacagagt 1020
acagcaggat gacctgggtgc gttgctgcca caaatgcagg gacctggtag acgaagcaaa 1080
ggactaccac ctcatgccag agcgccggcc ccacctgcca gtttcagaa cccggccacg 1140
ctgctgcaca tccatcgctg gacttatcta cgctgttaggg ggcctaact cagcaggtga 1200
ttccctgaat gtggtggaaag tttcgaccc cattgccaat tgctggaga gatgccgtcc 1260
catgacaaca gcccgcagcc gcgttggcgt ggctgtggtg aacgggcttc tctatgccat 1320
cgaggatgat gacggccagc tacggctgag cactgtggag gcctacaacc cggagacaga 1380
cacatggacc agagtgggaa gcatgaatag caagagaagt gccatgggaa cagtcgtct 1440
ggatggcag atctacgtct gtggggcta cgatggcaac tttccctca gctccgtgga 1500
gacctactca cctgagacgg acaaattggac agtggtgacc tcgatgagct cgaatcgac 1560
tgctgctggg gttacagtct ttgagggcag gatatatgtg tcaggcggcc atgatggtt 1620
gcagatcttc agcagtgtgg aacactacaa ccaccacaca gccacctggc accctgcagc 1680
tggcatgctc aacaagcgct gccggcacgg agccgcctcc ctggggagca agatgtttgt 1740

ctgcgggggc tacgatggct ctggcttcct cagcattgcc gagatgtaca gctctgtggc 1800
agaccagtgg tgcctgattg tccccatgca cacgcgcagg agccgggtct ccctggtggc 1860
cagctgtggg cgcctctacg ctgttggggg ctacgacgga cagtcaaacc taagctcagt 1920
ggagatgtat gaccagaga cagactgctg gacattcatg gccccatgg cgtgccatga 1980
gggaggggtc ggtgtggct gcatccctct cctcaccatc taaggcagag gatggatgt 2040
ggtggggcag ggatctggta cagacatagg cgcttccttc caggaacagt ccctcaggag 2100
aggcagtgga ccagaagaga tggcgaaacg tgagctcgcc ggaggtacag ttttccagg 2160
tgcttaagcc ctcccaact gtgccaccct tgtgaccttc aggcttgggt catcaagatg 2220
cacagcatgg aacacaagct cctctggatc ctgcagctgg tgacatggaa ctgtttctg 2280
gtccacatga acacaggctc catccaggcc cagtcctac ccaccgcctc tctgtggcc 2340
agctgttcac agaaggcctt ccatctgatg ctccccatcg cctgcttgct ctccagccga 2400
gtctggccaa tttccatgg ggaggctgca gtgtccaagc ctgctggaaa ctgggatgta 2460
gctggggacg aaaggacaga cccaaagcggtt ctccctgcct gagatggtgt ggccacagca 2520
gtggaaggct gcacacaggc acattccttc ttccacagtg gggcaccaag gattctgtcc 2580
tcattgctgg gtaagcaggg agaagagaag tttccccat gtctaatttt gggatttcag 2640
tgagggcttt tccatctgtc caggagaaca gaagggaaaa aaagatactt gaaagaaaact 2700
gaaggaaatt taaacaaaga aacacttcaa agaaacttggaa aaaaaaaaata attttttat 2760
gtgaacaaat tttgcaagaa gaaaaaaagca taaaagacac taacggcaaa tctatgttta 2820
aatggaaaat cgtctaactg gagaagggcg gtatccaccc cacattcgga tcccagggtc 2880
ctgaggcctc gcattgagct gggggttccc tctgagcccc agtgtgtgtg gaatcagtgc 2940
actcttgact gggcctgttag taaggtgctc atggggtttg tcttctcacc caccatcaga 3000
ggactttaa aatcatagggc gtagagagtt agctatctgc tgaattactg ccactcttct 3060
tggtgggggc tcctagctgt ggctgggggc tccaggcgcc cctgtgatta ctcctactg 3120

ccaccatggc gtcattcag attccccact ctcactaaca ttgcttcctt ttttgc
3180
cagggaaacag caggctggc cagattctca cttgcccattc aatctcggtt ttggatgatt
3240
tccctcattt tgatgcttctt ggggcacgtt gaccatatgc acctctagaa cctaaccagg
3300
gcttccttctt accagctgtg ggcgggctt gtcggtaac cttgtctgct ctgcattcc
3360
actgctcctc catccactcg ccaatccaa gagtctggcc tccctccagc cctgggcaga
3420
ctgaccagca aggtggaccc ttacattcaa gcacagctgg cttttatgac ataaagaact
3480
aaaggccgaa agaatctctt gtcgtgcaa agaacagatt ttatatttct tcctctaattc
3540
ttggcaaattt acctttaccc ttggaaaga tttcatattt cttcctcctc cctggatagg
3600
acctaatttta gcacagcggg actcaaaagag gaggacattt tcttttgcgtt gtgcactggg
3660
cagttgggct gtccttcaac tgctgtgcc aaaattggtt ttctaaaattt cttccagtag
3720
agactaaaag aagattcaat tcctgttaacc caagactgag tcttagggct ccagtctcca
3780
cctgcttggg ttccttatcct ttgctgcctg cctgggggtgg cctggaaagcc tgttcagaaa
3840
ggcacaatgt ggagcctggg gtgtctcccc caccccaagga ccgtcaggattt taccagtgt
3900
tgcaatcgcc atgtattcag agggaaagtac ctttggtaacc tacaacttag gagctaggcc
3960
tctgctacaa gcacttgaaa atgatattttt tatttttaac gtctcaacaa tctgatatcg
4020
gatgtcgaaa aacctgggct cgtggtaggg ctccagcattt tctccctcct tcctggttt
4080
cctgttagggg tagactcgga aggtgggtgg ggtgtgcattt tcctgttagg agtgtatcag
4140
tgcttgcattt attataagcc ctttctttt gtgaatttga agtagcacca acaaggctgg
4200
attgtgaagg tattaaagaat cggtctgtgg gctactgagt gggtccttagt gatactggcc
4260
cagatttgc cactgggtat ggcagatcat tttctaccat ggcctgctgc tcttggtagt
4320
gacttcctga gtccaaatccc acctcctgggt gtggaaatttca cactgctgca cctgaggctg
4380
atgtttcaaa gtaagatcaa gccagtggtt tgatctgggc tctgagcaca agtcaggaaa
4440
caccaacata ttcacactct cccagtaggt tcctcagtcc gatggtaat ggctattcgt
4500

aaatggctgg tctggctctt tggtgttgg a gcctttccaa tagccccatg aaaagaagca 4560
tcacccaagg atattgtaaa aaggatgtaa caaggagata gggtagacat tgtactcagt 4620
gggccttggg gcctagccca gctctgagca gaggactgtg gcattcactg tccttgagt 4680
tttcacccctc ttggataaca cacgggcctt ctcttcttgg a tttcatcaga gattacagcc 4740
agatggggc tgaagaccat cctcttgacc acagaggtgt gactgtggg a ttccctccca 4800
atttatggtt tcccagaaaaa tcttagttcc ttttattttt agaatgcattg tcttttggt 4860
taagaaacca aagagaaata aagagaacac tcctaataaa aaaaaaaaaa aa 4912

<210> 343
<211> 2731
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (2578)..(2578)
<223> n at position 2578 is a or g or c or t

<400> 343
gacacaagac caagtttggaa acagatgcaa ataaactaaa atacagctct aatgtctttt 60
tctgctattc tgtctccctt ttcctctttg tctgtaaatg taaggaattt gagacaaaga 120
ggaaaaggga gacagaatag cagaatcttgc actttgatag tcaagatctt gttcaagact 180
tggcacttga tcttttggta aacctagttat tatgttatgg tcaagtggg agcatgaatt 240
taaatgttagt attaaaaaga ttacttggtc ttggctttcc aatctgtggg agtgtttgg 300
tcattttata cacacacaca cacacacaca cacacacaca cacctttttt tttttttgat 360
atgaggtctt accctgtcac ccagactaga gtgcagtggc gcaatcttag ctcactgcaa 420
cctctgccta cctggctcaa gggatcctcc cacctcagcc tccagagtag ctgggactac 480
aggcacatgc caccaagccc agctaatttt tcataatttt ggttagagatg gggtttca 540
ctgttgcaca ggctggtctc aaactcctga gctcaagtga tccacccacc ttggccttcc 600

aaagtgctgg gattacaggt gtgagctact gcacctggta cattattata attaataat 660
agtgacagga aaaggtaaaa attgcaagca acaataataa ccaataatgc agaaatacat 720
ataaaatgtt aactgtaaag gcagatattg ttgcctatat cagccaatgt agatcttctg 780
gttttatact tactggtata ctataaatga aatttagtga cagcatactg tataccaaac 840
tagagttac ccattgttat ttcttattta gattttaga tacattgtct tttgattcta 900
acattggcat tatcttaatt taatctctgt atattttct tcttttgga aatatgcgtt 960
tgtaaaagct taccttataa gctactatgg tgaccttggc ctatcagatg ggtgttctct 1020
taaaccgttt tatactgctt tataccagac tcaaaattgc caacatagtt atctgctaat 1080
tctcaataac ttaaagccac attattttg ctagagtaat tagtactaca ttgtttattt 1140
ctagatgcac tttaatattc atgtcaccag agtaatttag tttactgtt ttattatct 1200
gattgattaa gtctatccca atatgtctct gcagttgggt gacccaatat gtctctgcag 1260
ttgggtgacc caatatgtct ctgcagttgg gtgactacag aaataattca tgcagattac 1320
ctcgctattt gtatcatatt atatacaaatt gacatactct agtgcatttg aaatgttaatt 1380
taatggaatc ttgttagttt caaaattaag attgtctta aagtaaatca ttattcctt 1440
aatttactcc tctcatgacc cctgtaactg ttttcactt cagttcaaca tacattatg 1500
ccttcctcc tgtataccag ccagtaggtg ctggggttgc aaaataacta agatcaaccc 1560
atacatgctg gaagctctca atctagtagg agaggataga cacgaaagct cataattgg 1620
ttggtttgggt tttgagacag ggcagtctct gtcgccagct ggaggcagcg gcatgatctc 1680
agctcaactgc agcttgacc tcccaggctg aagtgaccct ttcacccctcag taccctaaag 1740
tagctggaat tacaggtgcc cacctgccag aaaactcagt tttacttaaa ttatttattt 1800
tcaacgtgta gctcatgaag atactaactt taaatggcag ggagtagatt gagaatcatc 1860
atggaagacc tttttttttt tttcttgaga tggagtctca ctccgtcacc caagctggag 1920
tgcaatggca tgatcttggc tcactgcatt ctccacttct gggttcaagt gattctcccta 1980

cctcagcctc	ccgagtagct	gggattacag	gcatgcagca	ccacacccag	ctaattttt	2040
tatttttagt	agagatgggg	tttcaccatg	ttggccaggc	tggtctaaaa	ctcctgacct	2100
caggtgatcc	acctgcctca	gcctccaaa	gtgctggat	tacaggtgtg	ggccaccaca	2160
cctggcccat	catggaagac	tttctgatgg	tgatgttga	attgggttt	ggagagtgaa	2220
ttagaatgtt	ttgaactaat	acagtaaagg	acagtagaaa	gaaggaacaa	catggacaga	2280
gacctaagg	catgaaatgt	cattctgtat	tcagttagac	gtttagtctt	gatagaagga	2340
tttttcctt	agaacagatt	acacctatat	gataagattt	tatttgttt	ttatthaata	2400
atagttcagt	taaaatataa	gcccaaaatt	gctccataaa	atttggcagc	agttatgcta	2460
ttgacagcat	ataaaaagca	ctcaatcgag	ctaggtgcag	tggctcatgg	ctgtaattcc	2520
agcactttgg	gaggccccag	caaaaggatc	acttgattca	aggaatttga	gaccagtn	2580
ggcaacatgg	caagactcta	tctgtatgaa	aaaaaaaaatt	tttaatttag	ctggaaatag	2640
tgatgtgtgc	cttgcagtg	agctgtgatt	tgctctactg	cactccacct	tgagtagcag	2700
agtgaaactg	tcttgaaaaa	aaaaaaaaaa	a			2731

<210> 344
 <211> 561
 <212> DNA
 <213> Homo sapiens

<400> 344	gcttaaactt	cagataccca	agctgttcat	aaattagtga	ctacataaga	tagttctggt	60
	tttacgacta	tagtgtgaca	ctgggtgagt	cagtcagctt	ctctggcct	catctgtaaa	120
	aggaaatgga	gagcaacatt	atctatactc	cctccctccc	tctatttctc	cctcccttcc	180
	ttcctccttc	cttcctccc	tttcttcctc	cttctccct	ttctctctcc	ctccctgcct	240
	ccctcccttt	ttccttctc	tgcctccttc	cctgtgattg	ggaaaaataa	tagctcaagt	300
	aattttaaaa	aaattcaatt	tagttatttc	tttagcatat	tactaaagac	ttagactcct	360

aagactttcc gtaaggaaaa ctagatgtgc tttgttagtgc agtcctaatt tttaaaattt	420
aaggagcccc ggcatggtgg ctcacgccta tagtctcaga actttggatg gctcaggcgg	480
aaggattgct tgagcccagg aatttgagac cagcctggc aacatagcaa aacctcatct	540
ttaccaaaaa aaaaaaaaaa a	561

<210> 345
<211> 3443
<212> DNA
<213> *Homo sapiens*

<400> 345
cctttttttt ttttttttac caaaaaaggg gggaaaaagg atattagttt tgttatcttc 60
ctcaattaca aaatgcctgt ttttactct ctgtcacaca aaccctgata aacatgcttc 120
tttatcgatt agcacagttg ggcttatact ttttgtacag tatgccagtg gaacatcaga 180
tgctgaacac tagcacatgc tgtgattttg caatccctgc ccacatcaca cacttgata 240
catttgtggg aggtcatgtg gggtggccta cacactggca agtaaaactca ttgatttgg 300
caatgagtca ctgacaatga ggatgttatt ttatTTAGC aggtttgtgc caacgtcatt 360
gcagaggcaa gaagaagaag ggatatgaat gatacactga cagataccaa cttaataaat 420
aaaaagcttgc caatcttgc aaaaaaagga acatggactt aacacccctgc aaagattttt 480
agtatTTAC atattcttacc aagcatgttA tataGccaaa gcctgtatc tctttctggc 540
attaatctgg ctTTTaaaaa aaattctgtt ttgtttttgt ttTattttaaa tcatggcctc 600
tggaaattcat tatcagtttc tctccactta aaccaagaga gtactgctgg ttgcAAAGG 660
atgttagaaa tcatccccca ttgtgctgtt ttctctaata atttgaagaa gggtgttatt 720
tgctatgtgt atacactgtc tccaaaatac attaactcct tgtaaaggcc tgacgccagt 780
tgtatttagtc tgTTCTcaca ttgttataaa gaaatacctg agattgggtt atttataaga 840
aaagaggttt aattgtctca cgggtctgca ggttgtacag gaagcatggc agcatctgct 900
tctqqqqqqqq cctqqqqqaaa cttacaatca tqqcaqaqq caaaaqtqqq qacagggcaca 960

ccacatggcc	agagcaggag	caagagagag	agacggaggg	gaggtaccac	acgcttaat	1020
aactacatct	taggagaact	cattcaactgt	catgaggaca	gtaccatggg	gatggtgctg	1080
aaccattcat	aagaacctac	ccctgtgatc	taaccacctc	cctgcaggcc	ccacacctcaa	1140
cactggggat	tatattcaa	catgcgattt	tgagcaggag	gacacatcca	aactgtatca	1200
ccagtattcc	tccaaagttgc	tgtcctctgc	atagagtgc	tttcccaga	tacttaaagg	1260
taaaggggcc	aaagtatccc	acccacaaaa	tctgtcctca	gtatcccctg	catcctcatg	1320
cttcagagtc	actcttattt	ctcaggtgaa	atgagcaggt	acgtatgact	gtgatgtcac	1380
ttaaatacaa	aaaaatacaa	aaaaaaaaatt	caaacaaaaaa	taaataagaa	atgagcaggt	1440
acggctgcct	gggcaccaca	ccagagaagc	tcagaggcaa	ggtccaccca	ccccagggag	1500
aaacgctgag	gatcaaactg	gtgaagagca	ggccacattt	cactttcctc	ttgctcttgt	1560
tcacaagctg	ttcctcagaa	atcacaggag	atgtaaaggt	ctactggttt	gctccctgag	1620
ggaccttctg	gaaacttcat	gggcctctag	gcaatcaaaa	ggtcttcttt	ttcaccagcc	1680
ccaatctttg	gagggaaacag	agctttgagg	aagaaaaagc	aggaaaacca	ggcacctgg	1740
ctagaaaagt	cagtgaaggg	ggtccacagt	ggagcttcc	accatactat	tctgaggctg	1800
cttcacaaag	accaaagctc	ctgcctaaag	gtttgcctg	ctccccaggc	atccagacat	1860
cactggcttt	ttcctactcc	aacccaagaa	aaggattctg	tctaatcaca	agtccaaattt	1920
gctgtctctc	ttgtctgacc	aaaatcctgt	tctcgccaaa	cagaagcact	gctatctact	1980
tccatctccc	cagcctactg	tgtacaaagc	atgccttgcc	acctgcccc	ctcatctttt	2040
tgttcatgtg	agaatgcatg	ggtcccagga	gcttcggtga	gaggacagag	aaaaatggga	2100
aattccatta	ccaaaacatt	ttagagaaag	aagaaaaaggc	aaaggagaat	ggaacgattt	2160
ttgctacttg	ctggcagatt	aaaagaactg	atgaagaact	ttcctgcttt	ctccgggtgc	2220
actggctcac	gcttgcgatc	ccacactttg	gggggcccag	gcaagcagat	tgcctgagct	2280
caggagttca	agaccagcca	gggcaacaca	gtgaaacccc	atctctacta	aaatacaaaa	2340

aattagccag gcgtggcagc atgcgcctgt aatcccagct actcgggagg ctgaggcagg 2400
agaatcgctt gaacctggga agcaggggtt gcagtgagca gagactgggt cactgcactc 2460
tagcctgggt gacagagcaa gactctaact ccaaaaaaca aaaaaaaaaat cttcctgct 2520
ttctctgcct atatactaag taatccacat gagatagtcc catgattata aacactgcct 2580
aaagaaggat ttaaaaataa acagacattt aaaattttta tagagaactt tttacaatca 2640
agatgaccag gcactgttaa gaaaatgaaa agagctttgt tatataactt atacctctcc 2700
caaaaattcta aactatttat cctacttggaa aatatctca tataatctac ctgctagtct 2760
ggtccagttt tctaattcatt ttttgcatac aagaagtgtt ttcttatata caatataatt 2820
cttttatttc catttaagcc aatcttttg ttccatctct taagaatttg agaaaatgtg 2880
ggtttgcattc ctcttccaa cttagttAAC caacttaata tgagtcatcc ctgggttttt 2940
ctctaaattc agtaatcagc ctgcacagat ctcaacttAA agattcacag atctcttaac 3000
cattttcag gtttcagaat ttcccttttg ccacccttaa tatgaacagt taacctgggt 3060
ttatctacgc ttttacatca aatccaaact gctttgttt tagggcctcc agaacccaaat 3120
cttgctttcc cacaacctta tttctatgtt ttgtcccttc tataaactaa atatactccc 3180
attgctaatt aagctattcc ctcatccctc cagtttagac agtcttctca ctttatttaa 3240
tcccaatcca tctccacatg gcccgttcaa caccagtata tccaccaaaa aacatttgc 3300
aatgtccccc atccagaatg atctcccttc atattgcagg cagaaaccag ggtgagtgg 3360
tcagtcatgg ctgtgtggtt gaatgtgctg gttctgttag cactgcagca tctttttagg 3420
ttctgactag ttctagatcg cga 3443

<210> 346
<211> 1358
<212> DNA
<213> Homo sapiens
<400> 346

gttccaaccc agggggaaaa atgcggcctt tgactgaaga ggagacccgt gtcatgttg 60
agaagatagc gaaatacatt gggagaatc ttcaactgct ggtggaccgg cccgatggca 120
cctactgttt ccgtctgcac aacgaccggg tgtactatgt gagtgagaag attatgaagc 180
tggccgccaa tatttccggg gacaagctgg tgtcgctggg gacctgcttt ggaaaattca 240
ctaaaaccca caagttcgg ttgcacgtca cagctctgga ttaccttgca cttatgcca 300
agtataaaagt ttggataaaag cctgggtcag agcagtcctt cctgtatggg aaccatgtgt 360
tcaaatactgg tctgggtcga atcactgaaa atacttctca gtaccaggc gtgggtgt 420
actccatggc agacatccct ttgggtttt gggtggcagc caaatctaca caagactgca 480
gaaaagtaga ccccatggcg attgtggtat ttcatcaagc agacattggg gaatatgtgc 540
ggcatgaaga gacgttgact taaaacgaag ccattccaag gacagacggc tgtatggaaa 600
ggccgagctt tgttcctgt gtttgtgtgg actccaccat catgttgaat tttgtcaaca 660
ctctggcctc ttcagggact tcttatttac tgtactctt atcactgaca aatgcaggct 720
ggattcttat tatatacaga gatggctcaa aaatgggtt tcagatctt gtgacgaaat 780
agaatactgt ttcatatttg aatcagaggg cttcttgttc tgagaaatag gttcaaaatc 840
attggaacca ggaacaagaa tagcttattt gtagtctgtga taacactgtt ttctaaacac 900
aaggattttc ttttttatta atatgcaaca tagacattgc cataacagaa taataaacca 960
catgtgggt tttaaaaatg aaatttggct aataggagca attcagctat ttttctatac 1020
agtaattgggt gtgtggtata gaagaaaaac gggttcaaac cccacttctg ccacctacca 1080
gctatatggc cttgaatgag tcattcagct ttaataaggt tcattttctt ctgtttaaaa 1140
agacacaaaa cttgaaaatc agctttggcc atctacctga gaattagaaa gtctgatttt 1200
tggaattaga aatcatgatt gtaggctggg cacagtggct cgccgcgtta atcccagcac 1260
tttgggaggc caaggcggac ggatcacttg aggttaggag tttgagacca gcctggccaa 1320
catggtgaaa ccccatctct actaa 1358

<210> 347
<211> 1047
<212> DNA
<213> *Homo sapiens*

<400> 347
ctggatacca tttgttgaaa gatgttatta ctctagctga acttacaaga gacttttagac 60
cagggatcta aattacagtgc gccttagtga ccttgcctt atcttcttag gacagctgag 120
aagccactgg gacttagagc cttaaaagg agattaactg tccaaaagg atcttgcta 180
ctgaccagca gacacttctt cttcagtag ctttcatac tgtgttgagt aacaccctag 240
ggtgtccatt aaagtttga gtttaccta gggcccagag ccatgaatca ggattctgtc 300
tacatgattc gtgtttcat tgggtgtcaaa atacaaaagc caaagttctg gctatgaatt 360
gttaacttgg aagaaatact aactgccacc acttattaag tgcctactgt gtgccaggct 420
ctgaacttagg tgcttcatac acattatcct aaattatctc aacatatgag gtaggtgttt 480
taattttat ttatagaac ttgggtgtt tgactgttaa gctatgggc tagagagagg 540
gtttgatccc aggtccctct gtgtttgc tgctgagcca cacaacctct cattcaaaa 600
acactttcaa aatgctaaca tattctaatt cactctaggc cacaaaaac tttaatacta 660
atatctgatt tgtaaatgac ttaatgtatc cttgacccta tcagctgaat ttaatgaaat 720
attcctctct gctgtgaaat ttaccagta tagtatttg tctagtgac gagcgagact 780
ccgtctacac acacacacac acacacacac acatccttcc tcctctaacc ccaaactaag 840
atcacagaag gtgatccagt cagagaacag agggaaatct taccaggaag ggcttaagta 900
cactttttt taaaacagct ttattgttt taaagcctac aatttgataa gccttgacat 960
atgtataacct gtgaaaggcat caccacaatc aagacactgg acatatctat cacaccccat 1020
cctaaaaaaaaaaaaaaa 1047

<210> 348
<211> 1306

<212> DNA
 <213> Homo sapiens

 <400> 348
 tccaaaaagg gtcagtctac ctccggccat aaaaaactca ttttcaagac agaaggcct 60
 gactcagact gacattctcc acttcttgtt ccccactgac agcctcccac ccccatctct 120
 ccctccctg ccattttggg ttttgggtct ttgaaccctt gtttgcataa ggtgtgcgtc 180
 agaagcaccc aggacttcca tttgctttgt cccggggctc cactgaacaa gttggcctgc 240
 actgggtttt ttttgggggg aggaggatgg ggagtaggac ataccagctt agatttaag 300
 gttttactg tgagggatgt ttgggagatg taagaaatgt tcttgcagtt aagggttagt 360
 ttacaatcag ccacattcta ggttagggcc cacttcaccc tactaaccag ggaagctgtc 420
 cctcactgtt gaattttctc taacttcaag gcccataatct gtgaaatgct ggcatttgca 480
 cttacacac agagtgcatt gtgagggta atgaaataat gtacatctgg cttgaaacc 540
 accttttatt acatggggtc tagaacttga cccccttgag ggtgcttgc ttctccct 600
 gttggtcggt gggttggtag tttctacagt tggcagctg gtttaggtaga gggagttgtc 660
 aagtctctgc tggcccagcc aaaccctgtc tgacaacctc ttggtaacc ttagtaccta 720
 aaaggaaatc tcacccatc ccacaccctg gaggattca tctttgtat atgatgatct 780
 ggatccacca agacttgcatt tatgctcagg gtcaatttct tttttttttt tttttttttt 840
 tttttttttt cttttagact gggtctcgct ttgttgccta ggctggagtg gagtggcgtg 900
 atcttggctt actgcagcct ttgcctcccc ggctcgagca gtcctgcctc agcctccgga 960
 gtagctggga ccacaggttc atgccaccat ggccagccaa ctttgcatt ttttgcatt 1020
 atggggtctc acagtgttgc ccaggctggt ctcaaaactcc tgggctcagg cgatccacct 1080
 gtctcagcct cccagagtgc tgggattaca attgtgagcc accacgtcca gctggaaagg 1140
 tcaacatctt ttacattctg caagcacatc tgcattttca ccccaccctt cccctccctc 1200
 tccctttta tatcccattt ttatatcgat ctcttatttt acaataaaac tttgctgcca 1260

aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa aaaaaaa 1306

<210> 349
<211> 341
<212> DNA
<213> Homo sapiens

<400> 349
agaaaataag ccattcctca taccaatata ggatcagctc cttgacacct gaggggcagg 60
agtgcttcct ggtgtgtgta ttagaatccc ttcctgcctt gtttcatggc agtgaatgc 120
ctcttggtcc tgtccaagtg tatcttcac tgatttctga atcatgttct agttgcttga 180
ccctgccaca tgggtccagt gttcatctga gcataactgt actaaatcct ttttccatat 240
cagtataata aaggagtgat gtgcaataaa aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa 300
aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa aaaaaaaaaaa a 341

<210> 350
<211> 791
<212> DNA
<213> Homo sapiens

<400> 350
ggcacctgta gtcccagcta ctcgggaggc tgaggcagga aaatctcttg aacctggag 60
gcagaggttg cagtgagccg agattgtgcc actgcactct agcctagctg acagagttag 120
gctccgtcct aaaaaaaaaaa aaaagtaat atctgttgat gaaaaaactg acacttccta 180
tgggtttacc tccttcctt ccgttggttt ctcttggta tccctcacgc gtttccct 240
ctccgctgca gtcacctatt tcccacttgt ttttcttctc tccttcttct ttttcttatt 300
gtgtcctccc tgccaccagt cacaggcttg tggtctacaa ataatgctgg tttgggtta 360
ttttaaaaca tctaacatga gatcagtgcc tgcttttaa agaagcatta cattatgtat 420
tagttataca aattattaga caatgtctta tctttatttt attgtttac acatagaaca 480
gagactattt ggagcccttg gaataacatt ccagcgtata aatataaatg aaatagttg 540

gcaaattaac tctctccagg ggtcatctag aaatatgatt ctgtcatcg atagaaattc	600
tattgctaga gtcctttagc cagcaaatag attttctatg cttggtgagc aaattcatca	660
caaatttcaa gctagttaca aataaaataa aataaaataa attaattaaa aagaaatttt	720
aaaaatccca acttacagtt taaaaagaag aaaagtggaa aaaaaaaaaaaca atgaacaaaa	780
aaaaaaaaaa a	791

<210> 351
<211> 1474
<212> DNA
<213> Homo sapiens

<400> 351	
ttcagcagtt agctaaatta caagatcgag aatggtaac agaactttt caacaaagca	60
aggtcaatat gcagaaaatg ctcccagaaa ttgatcagaa taaggaccgc atgttggaga	120
ttttggaagg aaagggactg agtttcttat tcccactcct caaattggag aaggaactgt	180
tgaagcaaat aaagttggat ccatcccctc aaaccatata taaatggatt aaagataaca	240
tctctcccaa acttcatgta gataaaggat ttgtgaacat cttaatgact agtttcttac	300
agtacatttc tagtgaagta aaccccccga gcgatgaaac agattcatcc tctgctcctt	360
ccaaagaaca gttagagcag gaaaaacaac tactactatc tttcaagcca gtaatgcaga	420
aatttcttca tgatcacgtt gatctacaag tcagtgcct gtatgctctc caggtgcact	480
gctataacag caacttccca aaaggcatgt tacttcgctt ttttgtgcac ttctatgaca	540
tggaaattat tgaagaagaa gctttcttgg cttggaaaga agatataacc caagagttc	600
cggaaaaagg caaggcttg ttccaggtga atcagtggct aacctggta gaaactgctg	660
aagaagaaga atcagaggaa gaagctgact aaagaaccag ccaaagcctt aaattgtgca	720
aaacatactg ttgctatgtat gtaactgcat ttgaccta acactgcgaaa attcattccg	780
ctgtaatgtt ttcacaatat ttaaagcaga agcacgtcag ttaggatttc cttctgcata	840
aggaaaaaaa gtagtgtaat gtcttaatca tagtctacca tcaaataattt taggagtatc	900

tttaatgttt agatagtata ttagcagcat gcaataatta catcataagt tctcaaggcag	960
aggcagtcta ttgcaaggac cttcttgct gccagttatc ataggctgtt ttaagttaga	1020
aaactgaata gcaacactga atactgtaga aatgcacttt gctcagtaat acttgagttg	1080
ttgcaatatt tgattatcca tttgggtgtt acagaaaaat tcttaactgt aattgatggt	1140
tgttgccgta atagtatatt gcctgtattt ctacctctag taatgggctt tatgtgctag	1200
attttaatat ctttgcgcct gggcaagtgc acaagtcttt taaaagaaa catggtttac	1260
ttgcacaaaaa ctgatcagtt ttgagagatc .gttaatgccc ttgaagtgggt ttttgggt	1320
gtgaaacaaa tggtgagaat ttgaattgggt ccctcctatt atagtattga aattaagtct	1380
acttaattta tcaagtcatg ttcatgcctt gatttatatacttactt atcaataaac	1440
attgtgatac ttgaaaaaaaaaaaaaaa aaaaaaaa aaaa	1474

<210> 352
 <211> 2932
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1332)..(1332)
 <223> n at position 1332 is a or c or g or t

<400> 352	
ccagcctgga cgacagagca gactccatct caaaaaaaaaaaa aaaaaaatgg tcacccctt	60
tgctcctaaa tcaccctcaa agtaaaagag aacaagaaac agaagcagaa atccatattt	120
agtgaaataa gacaacacct gtagctccaa acctgttagaa gcagatccca gagaaaagca	180
ggccagttct ctcctggaat cccagaaagt cccaggaatt ggaggcttca gtgctgcagt	240
agggagggga ctaaaaacaa agtctgtata tggagcagta agacccgg gttctcatcc	300
cccatcctgt gtgctctcggttgactagcc ctctccctct ccaggttag cttctggaga	360

aattaaatca aaggaggctct agaactgggg atggcaggca ttgagtgcag ggagttagtt 420
gccagaggct gagagcagag agatttagtg gcagtggca gagcaaacag caaaatgact 480
gccctttcc ctggccttgc tccagaaact gagcagccag acatacacac tcccagaagg 540
cagttggagg tccccccggg caatcagaac cacccacaga gaagacctcc agataactgac 600
atttagaagc cttctgacca aagagcttgc ctggccaccc actggcttac tcgctgacag 660
gccatgctcc tgccgtacac accggatcct atcagtcac ctcatggct cctttccaga 720
cttctgagga aagcttccaa catgaagagg gagttcaaaa caaacagaga gagagagaga 780
gagagagaga gagagagaga gagagagaga aaagaaatataaacaatgca gggagcaaaa 840
gataacttca aataaactca aaatattctt ctgggagaga tgagacaata ttgcatacat 900
aaaacaagaa gaggatgcta tcactaaatt ttaaaaaaaa gtaacagaaa gtaagaaaga 960
cctctaagaa atgtttctga aatgaggtat aattttttt ttttgaggg ggagtcttgc 1020
tctgtcaccc aggctggagc gcagtgccgt gatctcggt cactgcaacc tccgtctccc 1080
gggttcaagt gatttccttg cctcagcttc ctgagtagct gggattacag gcatgcgcc 1140
ccatgcctgg ctaattttgc atttttagta gagacgggtt ttcaccatgt tggccaggct 1200
ggtctgaaac tcccgacctc aggtgatctg cccacccatg cctccaaag tgctggatt 1260
acaggcatga gctaccgtgc ctggcctgtg tattttgga gacagagtct tgctctgtt 1320
cccaggctgg anggcagtgg tgcaactcta aactctgcct cccgggttca agcgattctc 1380
gtgcgtcacc tcccaagtag ctggggctag aggcatgtgc caccatgtct ggtaactttt 1440
tatataaaacc ttcagttaa tcttttagct tactgctgtg ttttcagct ttattcactt 1500
tgctttttt ctatatttc gttcaactc aactttaaa aaatcataact tgtatatttg 1560
tatatttata ttatatttc aagacctcat ttgcctctt ttcataatgg gctattattg 1620
ctccatggta cagaatcttc tggtctttcc taaactatta gttatattta aaatatttg 1680
taactttctc ccccttgcta gttctcaggt acccgcttcc tcccagagtg ctggcttcc 1740

ttaattattt gctgacttgt gctggtgtgt aacccttcat acttaggtat ttctatttgt 1800
ctgactgctg atttgcattcc aatccagtgt ttcttctgat tcgtggagaa gagacgacaa 1860
cgctgtgagg ctctggttt ggtggcttgt ctgggtgtgg gagctccttg tcatacatggg 1920
attttagct ccctgggtcg ccattcatac tggccactct cctgccatg ctgcccgtca 1980
ctcagcagga gggaaagtcg agaccacccctc cttAACCTTA cagacattga ttgtgagctt 2040
ggagcacctt ccgtgactgg accacccatg cagtggcctt ttgcttttg catttttaac 2100
tgcaattttc cccaaagatc ttccctaata cagtcttta ggaattgacg gtgggattaa 2160
acaaggcatg tttctgcact gaatatggtc tatgggttgc cactttgcaa cctcagctt 2220
aaggcttatt tcctcccagg aaactgatgt taactttta agttaaaaat gtgtatataa 2280
gtaatacatg tttattttgg aaatttagaaa atacaggcca ggtgtgggtgg ctcatgcctg 2340
taatcccaac atttgggag gttgaggcgg gaggattgcc tgggccccggg agttttagac 2400
cagcctgggc aacataggaa aattccatct ctacaaaaaa attaaacatt ggctgggtgt 2460
ggtggtgccc acctgtggtc acagctactc gggagactga ggtggagga tagcttggc 2520
aggggaggtt gaggctacag tgagccacga tcacaccaat gtgacacagt gagaccctgt 2580
ctcaaaaaaa aaaaaaaaga aagaaaatat agttaaacac aaagacaaaa aagcagggca 2640
tggggctca cacctgtaat tctagcacct tgggaggctg aggcaggagg atcacttgag 2700
gtcaggaact cgagacgaga ccaggctggg cagcatggca ggaccccatc tctataaaaa 2760
gtacaaaaat tagcagggca cggtggtgtg cacctgtggc cctgctactt gggagttga 2820
ggtgggagga tcacctgagc cctggagggtt gagggtgctg tgagccatga tggcaccact 2880
ccactccagt ccaggtgaaa gagccagatc ctgtctcaaa aaaaaaaaaa aa 2932

<210> 353
<211> 1254
<212> DNA
<213> Homo sapiens

<400> 353
 gagagcgggg cctacggcgc ggccaaggcg ggccggctcct tcgacctgcg gcgcctcctg 60
 acgcagccgc aggtggtggc gcgcgccgtg tgcttggtct tcgccttgat cgtgttctcc 120
 tgcacatctatg gtgagggcta cagcaatgcc cacgagtcta acgagatgta ctgcgtgttc 180
 aaccgcaacg aggatgcctg ccgctatggc agtgcacatcg gggtgctggc ctccctggcc 240
 taccagcgct acaaggctgg cgtggacgac ttcatccaga attacgttga ccccactccg 300
 gaccccaaca ctgcctacgc ctcctaccca ggtgcacatcg tggacaacta ccaacagcca 360
 cccttcaccc agaacgcgga gaccaccgag ggctaccagc cgccccctgt gtactgagcg 420
 gcggtagcg tggaaagggg gacagagagg gccctccct ctgcctggg ctttccatg 480
 agcctcctgg aactgccagc ccctctctt cacctgttcc atcctgtgca gctgacacac 540
 agctaaggag cctcatagcc tggcgggggc tggcagagcc acaccccaag tgcctgtgcc 600
 cagagggctt cagtcagccg ctcactcctc cagggcactt ttaggaaagg gtttttagct 660
 agtgttttc ctcgccttta atgacctcag cccgcctgc agtggctaga agccagcagg 720
 tgcccatgtg ctactgacaa gtgcctcagc ttccccccgg cccgggtcag gccgtggag 780
 ccgctattat ctgcgttctc tgccaaagac tcgtgggggc catcacaccc gccctgtgca 840
 gcggagccgg accaggctct tgtgtcctca ctcagggttg cttccctgt gcccactgct 900
 gtatgatctg gggccacca ccctgtgccg gtggcctctg ggctgcctcc cgtgggtgta 960
 gggcgggct ggtgctcatg gcacttcctc cttgctccca cccctggcag cagggaaagg 1020
 ctttgcctga caacacccag ctttatgtaa atattctgca gttgttactt aggaagcctg 1080
 gggagggcag ggggtccccca tggctccctag actctgtctg tgccgagtgt attataaaat 1140
 cgtggggag atgcccggcc tgggatgctg tttggagacg gaataaatgt tttctcattc 1200
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1254

<210> 354
 <211> 1324

<212> DNA
<213> Homo sapiens

<400> 354
ccttccaag ggagtggttg tgtgatcgcc atcttaggga aaagatgttc tcgtccgtgg 60
cgcacctggc gcgggcgaac cccttcaaca cgccacatct gcagctggtg cacgatggtc 120
tcggggacct ccgcagcagc tccccagggc ccacgggcca gccccgcccgc cctcgcaacc 180
tggcagccgc cgccgtggaa gagtacagtt gtgaatttgg ctccgcgaag tattatgcac 240
tgtgtggctt tggtggggtc ttaagttgtg gtctgacaca cactgctgtg gttcccctgg 300
atttagtgaa atgccgtatg caggtggacc cccaaaagta caagggcata tttaacggat 360
tctcagttac acttaaagag gatgggtttc gtgggttggc taaaggatgg gctccgactt 420
tccttggcta ctccatgcag ggactctgca agtttggctt ttatgaagtc tttaaagtct 480
tgtatagcaa tatgcttgaa gaggagaata cttatctctg ggcgcacatca ctatatttgg 540
ctgcctctgc cagtgtgaa ttcttgctg acattgcct ggctcctatg gaagctgcta 600
aggttcgaat tcaaaccagg ccaggttatg ccaacacttt gagggatgca gctcccaaaa 660
tgtataagga agaaggccta aaagcattct acaagggggt tgctcctctc tggatgagac 720
agataccata caccatgatg aagttcgctt gctttgaacg tactgttcaa gcactgtaca 780
agtttgggt tcctaagccc cgcaatgtatg gttcaagcc agagcagctg gttgttaacat 840
ttgttagcagg ttacatagct ggagtctttt gtgcaattgt ttctcaccct gctgattctg 900
tggtatctgt gttgaataaa gaaaaaggta gcagtgttc tctggtcctc aagagacttg 960
gatttaaagg tgtatggaaag ggactgtttt cccgtatcat catgattggt accctgactg 1020
cactacagtg gtttatctat gactccgtga aggtctactt cagacttcct cgccctcctc 1080
cacccgagat gccagagtct ctgaagaaga agcttgggtt aactcagtag ttagatcaa 1140
gcaaatgtgg actgaatctg cttgttgatc agtgttgaag aaagtgcata aggaactttt 1200
atataatttga cagtgttagga aattgtctat tcctgatata attactgttag tactcttgct 1260

taaggcaaga	gttcagatt	tactgttcaa	ataaacccaa	ctcttcatga	aaaaaaaaaa	1320
aaaaa						1324
<210> 355						
<211> 2303						
<212> DNA						
<213> Homo sapiens						
<400> 355						
cgacgcgtg	ggcgccgatc	gcggcctgag	gctgctcccg	gacaaggca	acgagcggtt	60
cgtttggact	tctcgacttg	agtgcggcc	tccttcgccc	ccgcctctgc	agtcctcagc	120
gcagtcttc	cacaggagcc	agcatacttc	ctgaacatgg	agagtgttgt	tcgcccgtgc	180
ccattcttat	cccgagtc	ccaggcctt	ctgcagaaag	caggcaaatac	tctgttgttc	240
tatgccc	actgccccaa	gatgatggaa	gttggggcca	agccagcccc	tcgggcattt	300
tccactgcag	cagtacacta	ccaacagatc	aaagaaaccc	ctccggccag	tgagaaagac	360
aaaactgcta	aggccaaggt	ccaacagact	cctgatggat	cccagcagag	tccagatggc	420
acacagcttc	cgtctggaca	ccccttgcc	gccacaagcc	agggcactgc	aagcaaatac	480
ccttcctgg	cagcacagat	gaatcagaga	ggcagcagt	tcttctgcaa	agccagtctt	540
gagcttcagg	aggatgtgca	ggaaatgaat	gccgtgagga	aagaggttgc	tgaaacctca	600
gcaggcccc	gtgtggtag	tgtaaaaacc	gatggagggg	atcccagtgg	actgctgaag	660
aacttccagg	acattatgca	aaagcaaaga	ccagaaagag	tgtctcatct	tcttcaagat	720
aacttgccaa	aatctgtttc	cactttcag	tatgatcg	tctttgagaa	aaaaattgat	780
gagaaaaaga	atgaccacac	ctatcgagtt	tttaaaactg	tgaaccggcg	agcacacatc	840
ttccccatgg	cagatgacta	ttcagactcc	ctcatcacca	aaaagcaagt	gtcagtctgg	900
tgcagtaatg	actacctagg	aatgagtcgc	cacccacggg	tgtgtgggc	agttatggac	960
actttgaaac	aacatggtgc	tggggcaggt	ggtactagaa	atatttctgg	aactagtaaa	1020
ttccatgtgg	acttagagcg	ggagctggca	gacctccatg	ggaaagatgc	cgcactctt	1080

ttttcctcggttttgc caatgactca accctcttca ccctggctaa gatgatgcca 1140
ggctgtgaga tttactctga ttctggaaac catgcctcca tgatccaagg gattcgaaac 1200
agccgagtgc caaagtacat cttccgcccac aatgatgtca gccacctcag agaactgctg 1260
caaagatctg acccctcagt ccccaagatt gtggcatttgc aaactgtcca ttcaatggat 1320
ggggcggtgt gcccactgga agagctgtgt gatgtggccc atgagtttgg agcaatcacc 1380
ttcgtggatg aggtccacgc agtggggctt tatggggctc gaggcggagg gattggggat 1440
cgggatggag tcatgccaaa aatggacatc atttctggaa cacttggcaa agcctttgg 1500
tgtgttggag ggtacatcgc cagcacgagt tctctgatttgc acaccgtacg gtcctatgct 1560
gctggcttca tcttcaccac ctctctgcca cccatgctgc tggctggagc cctggagttct 1620
gtgcggatcc tgaagagcgc tgagggacgg gtgcttcgccc gccagcacca ggcacacgtc 1680
aaactcatga gacagatgct aatggatgcc ggcctccctg ttgtccactg ccccagccac 1740
atcatccctg tgcgggttgc agatgctgct aaaaacacag aagtctgtga tgaactaatg 1800
agcagacata acatctacgt gcaagcaatc aattacccta cggtgccccg gggagaagag 1860
ctcctacgga ttgcccccac ccctcaccac acacccaga tcatgaacta cttcctttag 1920
aatctgctag tcacatggaa gcaagtgggg ctggaaactga agcctcatttgc ctcagctgag 1980
tgcaacttct gcaggaggcc actgcattttt gaagtgtatga gtgaaagaga gaagtcctat 2040
ttctcaggct tgagcaagtt ggtatctgct caggcctgag catgacccatca attatttcac 2100
ttaacccag gccattatca tatccagatg gtcttcagag ttgtctttat atgtgaatata 2160
agttatatta aattttatc tatagtaaaa acatagtcct ggaaataaat tcttgcttaa 2220
atggtaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2280
aaaaaaaaaa aaaaaaaaaa aaa 2303

<210> 356
<211> 361

<212> PRT

<213> Homo sapiens

<400> 356

Met Phe Ser Ser Val Ala His Leu Ala Arg Ala Asn Pro Phe Asn Thr
1 5 10 15

Pro His Leu Gln Leu Val His Asp Gly Leu Gly Asp Leu Arg Ser Ser
20 25 30

Ser Pro Gly Pro Thr Gly Gln Pro Arg Arg Pro Arg Asn Leu Ala Ala
35 40 45

Ala Ala Val Glu Glu Tyr Ser Cys Glu Phe Gly Ser Ala Lys Tyr Tyr
50 55 60

Ala Leu Cys Gly Phe Gly Val Leu Ser Cys Gly Leu Thr His Thr
65 70 75 80

Ala Val Val Pro Leu Asp Leu Val Lys Cys Arg Met Gln Val Asp Pro
85 90 95

Gln Lys Tyr Lys Gly Ile Phe Asn Gly Phe Ser Val Thr Leu Lys Glu
100 105 110

Asp Gly Val Arg Gly Leu Ala Lys Gly Trp Ala Pro Thr Phe Leu Gly
115 120 125

Tyr Ser Met Gln Gly Leu Cys Lys Phe Gly Phe Tyr Glu Val Phe Lys
130 135 140

Val Leu Tyr Ser Asn Met Leu Gly Glu Glu Asn Thr Tyr Leu Trp Arg
145 150 155 160

Thr Ser Leu Tyr Leu Ala Ala Ser Ala Ser Ala Glu Phe Phe Ala Asp

165

170

175

Ile Ala Leu Ala Pro Met Glu Ala Ala Lys Val Arg Ile Gln Thr Gln
180 185 190

Pro Gly Tyr Ala Asn Thr Leu Arg Asp Ala Ala Pro Lys Met Tyr Leu
195 200 205

Glu Glu Gly Leu Lys Ala Phe Tyr Lys Gly Val Ala Pro Leu Trp Met
210 215 220

Arg Gln Ile Pro Tyr Thr Met Met Lys Phe Ala Cys Phe Glu Arg Thr
225 230 235 240

Val Glu Ala Leu Tyr Lys Phe Val Val Pro Lys Pro Arg Ser Glu Cys
245 250 255

Ser Lys Pro Glu Gln Leu Val Val Thr Phe Val Ala Gly Tyr Ile Ala
260 265 270

Gly Val Phe Cys Ala Ile Val Ser His Pro Ala Asp Ser Val Val Ser
275 280 285

Val Leu Asn Lys Glu Lys Gly Ser Ser Ala Ser Leu Val Leu Lys Arg
290 295 300

Leu Gly Phe Lys Gly Val Trp Lys Gly Leu Phe Ala Arg Ile Ile Met
305 310 315 320

Ile Gly Thr Leu Thr Ala Leu Gln Trp Phe Ile Tyr Asp Ser Val Lys
325 330 335

Val Tyr Phe Arg Leu Pro Arg Pro Pro Pro Pro Glu Met Pro Glu Ser
340 345 350

Leu Lys Lys Lys Leu Gly Leu Thr Gln
355 360

<210> 357
<211> 640
<212> PRT
<213> Homo sapiens

<400> 357

Met Glu Ser Val Val Arg Arg Cys Pro Phe Leu Ser Arg Val Pro Gln
1 5 10 15

Ala Phe Leu Gln Lys Ala Gly Lys Ser Leu Leu Phe Tyr Ala Gln Asn
20 25 30

Cys Pro Lys Met Met Glu Val Gly Ala Lys Pro Ala Pro Arg Ala Leu
35 40 45

Ser Thr Ala Ala Val His Tyr Gln Gln Ile Lys Glu Thr Pro Pro Ala
50 55 60

Ser Glu Lys Asp Lys Thr Ala Lys Ala Lys Val Gln Gln Thr Pro Asp
65 70 75 80

Gly Ser Gln Gln Ser Pro Asp Gly Thr Gln Leu Pro Ser Gly His Pro
85 90 95

Leu Pro Ala Thr Ser Gln Gly Thr Ala Ser Lys Cys Pro Phe Leu Ala
100 105 110

Ala Gln Met Asn Gln Arg Gly Ser Ser Val Phe Cys Lys Ala Ser Leu
115 120 125

Glu Leu Gln Glu Asp Val Gln Glu Met Asn Ala Val Arg Lys Glu Val
130 135 140

Ala Glu Thr Ser Ala Gly Pro Ser Val Val Ser Val Lys Thr Asp Gly
145 150 155 160

Gly Asp Pro Ser Gly Leu Leu Lys Asn Phe Gln Asp Ile Met Gln Lys
165 170 175

Gln Arg Pro Glu Arg Val Ser His Leu Leu Gln Asp Asn Leu Pro Lys
180 185 190

Ser Val Ser Thr Phe Gln Tyr Asp Arg Phe Phe Glu Lys Leu Ile Asp
195 200 205

Glu Lys Lys Asn Asp His Thr Tyr Arg Val Phe Lys Thr Val Asn Arg
210 215 220

Arg Ala His Ile Phe Pro Met Ala Asp Asp Tyr Ser Asp Ser Leu Ile
225 230 235 240

Thr Lys Lys Gln Val Ser Val Trp Cys Ser Asn Asp Tyr Leu Gly Met
245 250 255

Ser Arg His Pro Arg Val Cys Gly Ala Val Met Asp Thr Leu Lys Gln
260 265 270

His Gly Ala Gly Ala Gly Gly Thr Arg Asn Ile Ser Gly Thr Ser Lys
275 280 285

Phe His Val Asp Leu Glu Arg Glu Leu Ala Asp Leu His Gly Lys Asp
290 295 300

Ala Ala Leu Leu Phe Ser Ser Cys Phe Val Ala Asn Asp Ser Thr Leu
305 310 315 320

Phe Thr Leu Ala Lys Met Met Pro Gly Cys Glu Ile Tyr Ser Asp Ser
325 330 335

Gly Asn His Ala Ser Met Ile Gln Gly Ile Arg Asn Ser Arg Val Pro
340 345 350

Lys Tyr Ile Phe Arg His Asn Asp Val Ser His Leu Arg Glu Leu Leu
355 360 365

Gln Arg Ser Asp Pro Ser Val Pro Lys Ile Val Ala Phe Glu Thr Val
370 375 380

His Ser Met Asp Gly Ala Val Cys Pro Leu Glu Glu Leu Cys Asp Val
385 390 395 400

Ala His Glu Phe Gly Ala Ile Thr Phe Val Asp Glu Val His Ala Val
405 410 415

Gly Leu Tyr Gly Ala Arg Gly Gly Ile Gly Asp Arg Asp Gly Val
420 425 430

Met Pro Lys Met Asp Ile Ile Ser Gly Thr Leu Gly Lys Ala Phe Gly
435 440 445

Cys Val Gly Gly Tyr Ile Ala Ser Thr Ser Ser Leu Ile Asp Thr Val
450 455 460

Arg Ser Tyr Ala Ala Gly Phe Ile Phe Thr Thr Ser Leu Pro Pro Met
465 470 475 480

Leu Leu Ala Gly Ala Leu Glu Ser Val Arg Ile Leu Lys Ser Ala Glu
485 490 495

Gly Arg Val Leu Arg Arg Gln His Gln Arg Asn Val Lys Leu Met Arg
500 505 510

Gln Met Leu Met Asp Ala Gly Leu Pro Val Val His Cys Pro Ser His
515 520 525

Ile Ile Pro Val Arg Val Ala Asp Ala Ala Lys Asn Thr Glu Val Cys
530 535 540

Asp Glu Leu Met Ser Arg His Asn Ile Tyr Val Gln Ala Ile Asn Tyr
545 550 555 560

Pro Thr Val Pro Arg Gly Glu Glu Leu Leu Arg Ile Ala Pro Thr Pro
565 570 575

His His Thr Pro Gln Met Met Asn Tyr Phe Leu Glu Asn Leu Leu Val
580 585 590

Thr Trp Lys Gln Val Gly Leu Glu Leu Lys Pro His Ser Ser Ala Glu
595 600 605

Cys Asn Phe Cys Arg Arg Pro Leu His Phe Glu Val Met Ser Glu Arg
610 615 620

Glu Lys Ser Tyr Phe Ser Gly Leu Ser Lys Leu Val Ser Ala Gln Ala
625 630 635 640

<210> 358

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 358

Gln Ile Gly Ala Lys Phe Trp Glu Val

1

5

<210> 359

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 359

Phe Met Pro Gly Phe Ala Pro Leu Thr

1 5

<210> 360

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 360

Thr Leu Leu Val Ala Val Phe Gln Asp Val

1 5 10

<210> 361

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 361

Val Ala Tyr Leu Gly Phe Val Phe Tyr Leu

1 5 10

<210> 362

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 362

Leu Leu Pro Thr Leu Arg Lys Gln Tyr Cys
1 5 10

<210> 363

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 363

Met Val Tyr Asp Leu Tyr Lys Thr Leu
1 5

<210> 364

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 364

Gly Leu Cys Lys Phe Gly Phe Tyr Glu Val
1 5 10

<210> 365
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 365

Phe Gly Phe Tyr Glu Val Phe Lys Val
1 5

<210> 366
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 366

Leu Gln Trp Phe Ile Tyr Asp Ser Val
1 5

<210> 367
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 367

Ala Leu Ala Pro Met Glu Ala Ala Lys Val
1 5 10

<210> 368

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 368

Arg Thr Val Glu Ala Leu Tyr Lys Phe Val

1 5 10

<210> 369

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 369

Val Leu Ser Cys Gly Leu Thr His Thr

1 5

<210> 370

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 370

Ala Leu Leu Phe Ser Ser Cys Phe Val

1 5

<210> 371

<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 371

Phe Leu Ser Arg Val Pro Gln Ala Phe Leu
1 5 10

<210> 372
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 372

Met Leu Leu Ala Gly Ala Leu Glu Ser Val
1 5 10

<210> 373
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 373

Leu Leu Gln Asp Asn Leu Pro Lys Ser Val
1 5 10

<210> 374
<211> 9

<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 374

Leu Met Ser Arg His Asn Ile Tyr Val
1 5

<210> 375
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 375

Ser Leu Ile Asp Thr Val Arg Ser Tyr Ala
1 5 10

<210> 376
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 376

Phe Leu Gln Lys Ala Gly Lys Ser Leu Leu
1 5 10

<210> 377
<211> 9
<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 377

Leu Leu Phe Ser Ser Cys Phe Val Ala

1 5

<210> 378

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 378

Gly Leu Leu Lys Asn Phe Gln Asp Ile

1 5

<210> 379

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 379

Ser Val Trp Cys Ser Asn Asp Tyr Leu

1 5

<210> 380

<211> 10

<212> PRT

<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 380

Leu Leu Val Thr Trp Lys Gln Val Gly Leu
1 5 10

<210> 381
<211> 10
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A2 restricted cytotoxic T lymphocytes

<400> 381

Val Ala Asn Asp Ser Thr Leu Phe Thr Leu
1 5 10

<210> 382
<211> 974
<212> DNA
<213> Homo sapiens

<400> 382
gaaacaagtt gaagtacctg gcttcctcc gcaagcggat gaacaccaac cttcccgag 60
gcccttacca cttccgggcc cccagccgca tcttctggcg gaccgtgcga ggtatgctgc 120
ccccacaaaac caagcgaggc caggccgctc tggaccgtct caaggtgttt gacggcatcc 180
caccccttta cgacaagaaa aagcggatgg tggttctgc tgccctcaag gtcgtgcgtc 240
tgaaggctac aagaaagttt gcctatctgg ggcgcctggc tcacgagggtt ggctggaagt 300
accaggcagt gacagccacc ctggaggaga agagggaaaga gaaagccaag atccactacc 360
ggaagaagaa acagctcatg aggctacgga aacaggccga gaagaacgtg gagaagaaaa 420

ttgacaaata cacagaggc	ctcaagaccc acggactcct	ggtctgagcc caataaagac	480
tgttaattcc tcatgcgttgc	cctgcccttc ctccattgtt	gccctggaat gtacgggacc	540
caggggcagc agcagtccag	gtgccacagg cagccctggg	acataggaag ctgggagcaa	600
ggaaagggtc ttagtcactg	cctcccgaag ttgcttggaaa	gcactcggag aattgtgcag	660
gtgtcattta tctatgacca	ataggaagag caaccagtta	ctatgagtga aagggagcca	720
gaagactgat tggagggccc	tatcttgtga gtggggcatc	tgttggactt cccacctgg	780
catatactct gcagctgtta	aatgtgcaa gcacttgggg	acagcatgag cttgctgttg	840
tacacagggt atttcttagaa	gcagaaatag actggaaaga	tgcacaacca aggggttaca	900
ggcatcgccc atgctcctca	cctgtatttt gtaatcagaa	ataaaattgct tttaaagaaa	960
aaaaaaaaaa aaaa			974

<210> 383
 <211> 821
 <212> DNA
 <213> Homo sapiens

<400> 383	ggggccgggg ccgaggccgc	ggagctcgcg gaggcaaggc	cgaggataag gagtggatgc	60
	ccgtcaccaa gttggccgc	ttggtcaagg acatgaagat	caagtcctg gaggagatct	120
	atctttctc cctgcccatt	aaggaatcag agatcattga	tttcttcctg gggcctctc	180
	tcaaggatga gttttgaag	attatgccag tgcagaagca	gaccctgtgcc ggccagcgca	240
	ccaggttcaa ggcatttgtt	gctatcgaaa actacaatgg	ccacgtcggt ctgggtgtta	300
	agtgctccaa ggaggtggcc	accgcacatcc gtggggccat	catcctggcc aagctctcca	360
	tcgtccccgt ggcacagggc	tactggggaa acaagatcgg	caagccccac actgtccctt	420
	gcaaggtgac aggccgctgc	ggctctgtgc tggtaacgcct	catccctgca cccaggggca	480
	ctggcatcgt ctccgcaccc	gtgcctaaga agctgctcat	gatggctgggt atcgatgact	540
	gctacacctc agcccggggc	tgcactgcca ccctggcaa	cttcgccaag gccacctttg	600

atgccatttc taagacctac agctacctga ccccccacct ctggaaggag actgtattca	660
ccaagtctcc ctatcaggag ttcactgacc acctcgtcaa gacccacacc agagtctccg	720
tgcagcggac tcaggctcca gctgtggcta caacataggg tttttataca agaaaaataa	780
agtgaattta gcgtaaaaaa aaaaaaaaaa aaaaaaaaaa a	821

<210> 384

<211> 741

<212> DNA

<213> Homo sapiens

<400> 384

gcggcgtgag aagccatgag cagcaaagtc tctcgcgaca ccctgtacga ggcgggtgcgg	60
gaagtcctgc acgggaacca gcgcaagcgc cgcaagttcc tggagacggt ggagttgcag	120
atcagcttga agaactatga tccccagaag gacaagcgct tctcgggcac cgtcaggcct	180
aagtccactc cccgcctaa gttctctgtg tgtgtcctgg gggaccagca gcactgtgac	240
gaggctaagg ccgtggatat cccccacatg gacatcgagg cgctgaaaaa actcaacaag	300
aataaaaaac tggtaagaa gctggccaag aagtatgatg ctttttggc ctcagagtct	360
ctgatcaagc agattccacg aatcctcggc ccaggtttaa ataaggcagg aaagttccct	420
tccctgctca cacacaacga aaacatggtg gccaaagtgg atgaggtgaa gtccacaatc	480
aagttccaaa tgaagaaggt gttatgtctg gctgtagctg ttggtcacgt gaagatgaca	540
gacgatgagc ttgtgtataa cattcacctg gctgtcaact tcttggtgtc attgctcaag	600
aaaaactggc agaatgtccg ggccttatat atcaagagcc ccatggcaa gccccagcgc	660
ctatattaag gcccatttga ataaattcta tttcccgttt aaaaaaaaaa aaaaaaaaaa	720
aaaaaaaaa aaaaaaaaaa a	741

<210> 385

<211> 142

<212> PRT

<213> Homo sapiens

<400> 385

Met Asn Thr Asn Pro Ser Arg Gly Pro Tyr His Phe Arg Ala Pro Ser
1 5 10 15

Arg Ile Phe Trp Arg Thr Val Arg Gly Met Leu Pro His Lys Thr Lys
20 25 30

Arg Gly Gln Ala Ala Leu Asp Arg Leu Lys Val Phe Asp Gly Ile Pro
35 40 45

Pro Pro Tyr Asp Lys Lys Arg Met Val Val Pro Ala Ala Leu Lys
50 55 60

Val Val Arg Leu Lys Pro Thr Arg Lys Phe Ala Tyr Leu Gly Arg Leu
65 70 75 80

Ala His Glu Val Gly Trp Lys Tyr Gln Ala Val Thr Ala Thr Leu Glu
85 90 95

Glu Lys Arg Lys Glu Lys Ala Lys Ile His Tyr Arg Lys Lys Lys Gln
100 105 110

Leu Met Arg Leu Arg Lys Gln Ala Glu Lys Asn Val Glu Lys Lys Ile
115 120 125

Asp Lys Tyr Thr Glu Val Leu Lys Thr His Gly Leu Leu Val
130 135 140

<210> 386

<211> 233

<212> PRT

<213> Homo sapiens

<400> 386

Met Pro Val Thr Lys Leu Gly Arg Leu Val Lys Asp Met Lys Ile Lys
1 5 10 15

Ser Leu Glu Glu Ile Tyr Leu Phe Ser Leu Pro Ile Lys Glu Ser Glu
20 25 30

Ile Ile Asp Phe Phe Leu Gly Ala Ser Leu Lys Asp Glu Val Leu Lys
35 40 45

Ile Met Pro Val Gln Lys Gln Thr Arg Ala Gly Gln Arg Thr Arg Phe
50 55 60

Lys Ala Phe Val Ala Ile Gly Asp Tyr Asn Gly His Val Gly Leu Gly
65 70 75 80

Val Lys Cys Ser Lys Glu Val Ala Thr Ala Ile Arg Gly Ala Ile Ile
85 90 95

Leu Ala Lys Leu Ser Ile Val Pro Val Arg Arg Gly Tyr Trp Gly Asn
100 105 110

Lys Ile Gly Lys Pro His Thr Val Pro Cys Lys Val Thr Gly Arg Cys
115 120 125

Gly Ser Val Leu Val Arg Leu Ile Pro Ala Pro Arg Gly Thr Gly Ile
130 135 140

Val Ser Ala Pro Val Pro Lys Lys Leu Leu Met Met Ala Gly Ile Asp
145 150 155 160

Asp Cys Tyr Thr Ser Ala Arg Gly Cys Thr Ala Thr Leu Gly Asn Phe
165 170 175

Ala Lys Ala Thr Phe Asp Ala Ile Ser Lys Thr Tyr Ser Tyr Leu Thr

180

185

190

Pro Asp Leu Trp Lys Glu Thr Val Phe Thr Lys Ser Pro Tyr Gln Glu
195 200 205

Phe Thr Asp His Leu Val Lys Thr His Thr Arg Val Ser Val Gln Arg
210 215 220

Thr Gln Ala Pro Ala Val Ala Thr Thr
225 230

<210> 387
<211> 217
<212> PRT
<213> Homo sapiens

<400> 387

Met Ser Ser Lys Val Ser Arg Asp Thr Leu Tyr Glu Ala Val Arg Glu
1 5 10 15

Val Leu His Gly Asn Gln Arg Lys Arg Arg Lys Phe Leu Glu Thr Val
20 25 30

Glu Leu Gln Ile Ser Leu Lys Asn Tyr Asp Pro Gln Lys Asp Lys Arg
35 40 45

Phe Ser Gly Thr Val Arg Leu Lys Ser Thr Pro Arg Pro Lys Phe Ser
50 55 60

Val Cys Val Leu Gly Asp Gln Gln His Cys Asp Glu Ala Lys Ala Val
65 70 75 80

Asp Ile Pro His Met Asp Ile Glu Ala Leu Lys Lys Leu Asn Lys Asn
85 90 95

Lys Lys Leu Val Lys Lys Leu Ala Lys Lys Tyr Asp Ala Phe Leu Ala
100 105 110

Ser Glu Ser Leu Ile Lys Gln Ile Pro Arg Ile Leu Gly Pro Gly Leu
115 120 125

Asn Lys Ala Gly Lys Phe Pro Ser Leu Leu Thr His Asn Glu Asn Met
130 135 140

Val Ala Lys Val Asp Glu Val Lys Ser Thr Ile Lys Phe Gln Met Lys
145 150 155 160

Lys Val Leu Cys Leu Ala Val Ala Val Gly His Val Lys Met Thr Asp
165 170 175

Asp Glu Leu Val Tyr Asn Ile His Leu Ala Val Asn Phe Leu Val Ser
180 185 190

Leu Leu Lys Lys Asn Trp Gln Asn Val Arg Ala Leu Tyr Ile Lys Ser
195 200 205

Pro Met Gly Lys Pro Gln Arg Leu Tyr
210 215

<210> 388

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 388

Leu Val Leu Asp Gly Arg Gly His Leu
1 5

<210> 389

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 389

His Leu Leu Gly Arg Leu Ala Ala Ile

1 5

<210> 390

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 390

Ala Ile Val Ala Lys Gln Val Leu Leu

1 5

<210> 391

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 391

Val Leu Leu Gly Arg Lys Val Val Val

1 5

<210> 392
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 392

Ala Phe Leu Arg Lys Arg Met Asn Thr
1 5

<210> 393
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 393

His Phe Arg Ala Pro Ser Arg Ile Phe
1 5

<210> 394
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 394

Val Leu Lys Thr His Gly Leu Leu Val
1 5

<210> 395

<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 395

Pro Val Thr Lys Leu Gly Arg Leu Val
1 5

<210> 396
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 396

Lys Ile Met Pro Val Gln Lys Gln Thr
1 5

<210> 397
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 397

Val Thr Gly Arg Cys Gly Ser Val Leu
1 5

<210> 398
<211> 9

<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 398

Arg Leu Ile Pro Ala Pro Arg Gly Thr
1 5

<210> 399
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 399

Asp Leu Trp Lys Glu Thr Val Phe Thr
1 5

<210> 400
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 400

His Leu Val Lys Thr His Thr Arg Val
1 5

<210> 401
<211> 9
<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 401

His Thr Arg Val Ser Val Gln Arg Thr

1 5

<210> 402

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 402

Arg Thr Gln Ala Pro Ala Val Ala Thr

1 5

<210> 403

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 403

Thr Leu Tyr Glu Ala Val Arg Glu Val

1 5

<210> 404

<211> 9

<212> PRT

<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 404

Glu Thr Val Glu Leu Gln Ile Ser Leu
1 5

<210> 405
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 405

Lys Val Asp Glu Val Lys Ser Thr Ile
1 5

<210> 406
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 406

Thr Ile Lys Phe Gln Met Lys Val Leu
1 5

<210> 407
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 407

Lys Val Leu Cys Leu Ala Val Ala Val
1 5

<210> 408
<211> 9
<212> PRT
<213> Artificial

<220>
<223> Designed peptide recognized by HLA-A26 restricted cytotoxic T lymphocytes

<400> 408

Ser Thr Met Gly Lys Pro Gln Arg Leu
1 5